Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.11.97 Test oil : ISO 4113

Combination No. : 0 402 074 700

Injection pump

Pump designation : PES4P110B720RS3383

EP type number : 0 412 014 701

Governor

Governer design. : RSV300...1100P1A667

Governer no. : 0 421 833 582

Cust. part No. : 9880216

Customer—spec. information Customer : LIEBHERR

Motor : D 924 TI-E A2

Power KW : 149.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. $^{\circ}$ C : $^{\circ}$ C :

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 207.0 Tolerance bar : + 1.5

Test lines : 1 680 750 008

AC1

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 4-2-1-3

Phasing : 0-90-180-270

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 4

BASIC SETTING

Rated speed rpm : 880

Rack travel in mm : 13.85

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 203.0	Aneroid pressure hPa : 1500 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 203.0 Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.5
Spreed	Spreed Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	
**************************************	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 99.0 tolerance degree : +- 4.0
Rack travel in mm: 4.60 + Tolerance mm: + 0.10	RATED SPEED
Del. quantity	rack travel mm : 12.85
cm3/1000 strokes : 24.0	Rated speed rpm : 920
Tolerance + 3.0 +	Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 5.5 +- 5.5	Rated speed rpm : 980 Tolerance 1/min : +- 15
Tolerance	•
cm3/1000 strokes : 4.5 + Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : 7.5	Tolerance mma : +- 0.55 Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 80.0 tolerance degree : + 4.0
Rack travel in mm : 0.50 + Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 500
pre-tension	rack travel mm : 2.80 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
+	Rated speed rpm : 500
Rated speed rpm : 880 +	rack travel mm : 4.60 Tolerance mm : +- 0.10

rack travel mm Rated speed rpm Tolerance 1/min	: 595	Check tolerance cm3/1000s. Aneroid pressur	: +- 6.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 880 : 13.85 : ← 0.05	hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 stroke	: 13.90 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 13.90 : + 0.10	Tolerance cm3/1000 stroke Check tolerance cm3/1000s.	es : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.90 : ← 0.10	Aneroid pressur	re : ~
ANEROID/ALTITUDE COMPENSATOR TEST		Rated speed rpm Del. quantity cm3/1000 stroke Tolerance	es : 170.0
SETTING		+ cm3/1000 stroke + Check tolerance + cm3/1000s.	
Rated speed rpm Pressure hPa rack travel mm	: 1500		
Tolerance mm	: + 0.10	STARTING FUEL D	ELIVERY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: - : 11.25	Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 stroke	: 20.50 : + 0.50
Rated speed rpm	: 550	+ cm3/1000 stroke + Check tolerance	!
Pressure hPa rack travel mm Tolerance mm	: 13.20 : ← 0.05	+ cm3/1000s.	: 19.0
Pressure hPa rack travel mm Tolerance mm	: 750 · 12 10	LOW IDLE	
Tolerance mm	: + 0.20	Rated speed rpm	: 500
FUEL DELIVERY CHA		Rack travel in Tolerance mm Del. quantity	: + 0.10
		cm3/1000 stroke	
Aneroid pressure hPa	: 1500	cm3/1000 stroke Check tolerance	•
Rated speed rpm Del. quantity cm3/1000 strokes	: 500	cm3/1000s. Spreed Tolerance	: +- 5.5
Tolerance cm3/1000 strokes		cm3/1000 stroke	es : 4.5

Check tolerance cm3/1000s.	:	7.5	
			

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.11.97 : ISO 4113

Combination No. : 0 402 646 617

Injection pump

Pump designation : PE6P130A320RS7282 EP type number : 0 412 636 825

Governor

Governer design. : RQV300...900PA1059

Governer no. : 0 421 814 049

Cust. part No. : 865851-P08 V.09.97

Customer-spec. information Customer : PENTA

: TAD 1230 P Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

40 temo. °C Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check tolerance mm : +- 0.10

Rack travel in mm : 8.30 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

	•
Rack travel in mm : 11.55	+ Rated speed rom : 315
Tolerance ma : +- 0.05	+ Rated speed rpm : 315 - guide sleeve
Total Gride many	travel mm : 1.98
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 349.0	1
	Rated speed rpm : 365
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.5	travel mm : 2.54
	Tolerance mm : + 0.25
Check tolerance $c_{n3}/1000s$. : \leftarrow 5.0	Dated around man . (20
CRIST 1000S. : 7- 3.0	+ Rated speed rpm : 420 + guide sleeve
Spreed	travel mm : 3.17
Op. 664	Tolerance mm : + 0.25
Tolerance	+
cm3/1000 strokes : 7.0	Rated speed rpm : 1210
	+ guide sleeve
Check tolerance	† travel mm : 11.50
cm3/1000s. : 11.0	Tolerance mm : + 0.50
	†
	GUIDE SLEEVE POSITION
Rated speed rpm : 300	T GOIDE SEEEAE FOSTITON
Nation opecial pur . Soo	<u></u>
Rack travel in mm : 4.00	control lever
Tolerance mm : + 0.10	position degree : -1
Del. quantity	+ Rated speed rpm : 980
cm3/1000 strokes : 23.0	†
Tolerance	+ Rack travel in mm: 16.50
	1
cm3/1000 strokes : + 3.0	Tolerance mm : + 1.30
cm3/1000 strokes : +- 3.0 Check tolerance	1
<pre>cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0</pre>	Tolerance mm : + 1.30
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed	1
<pre>cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0</pre>	Tolerance mm : + 1.30
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance	Tolerance mm : + 1.30
cm3/1000 strokes : \(\psi \) 3.0 Check tolerance cm3/1000s. : \(\psi \) 6.0 Spreed Tolerance cm3/1000 strokes : 7.0	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0
cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s.: 11.0 (B) SETTING OF INJECTION PUMP	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5
cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s.: 11.0 (B) SETTING OF INJECTION PUMP	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0
cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s.: + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s.: 11.0 (B) SETTING OF INJECTION PUMP	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 300	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 300	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.81	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 650	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 928 guide sleeve travel mm: 7.72 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: : 1.81 Tolerance mm: : + 0.25 Rated speed rpm: 650 guide sleeve	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0
Cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes: 7.0 Check tolerance cm3/1000s. : 11.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 650	Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 349.0 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0

tolerance degree	: + 4.0	rack travel mm : 8.30 Tolerance mm : + 0.10
RATED SPEED rack travel mm Rated speed rpm		MEASUREMENT
Tolerance 1/min		Rated speed rpm : 500
rack travel mm Rated speed rpm Tolerance 1/min	: 1000	Pressure hPa : 1420 rack travel mm : 3.00 Tolerance mm : + 0.20
rack travel mma Tolerance mma Rated speed rpma	: ← 0.50	Pressure hPa : 640 rack travel mm : 0.25 Tolerance mm : + 0.05
		FUEL DELIVERY CHARACTERISTICS
LOW IDLE		
control lever position degree tolerance degree	: 74.0 : + 4.0	Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 230.0
control lever position degree tolerance degree	: 18.0 : ← 4.0	Tolerance - cm3/1000 strokes : 230.0 - Tolerance - cm3/1000 strokes : +- 1.5 - Check tolerance - cm3/1000s. : +- 5.0
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: 300 : 4.00 : ← 0.10	
rack travel mm Rated speed rpm	: > 5.60 : 200	LOW IDLE
Rated speed rpm	: 365	Rated speed rpm : 300 Rack travel in mm : 4.00
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm		Tolerance mm : \(\to 0.10\) Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : \(\to 3.0\) Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 7.0
SETTING		Check tolerance : 11.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 2000 : 11.55 : ← 0.05	End of test specification sheet
Rated speed rpm Pressure hPa	: 500 : -	‡

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.11.97 Test oil : ISO 4113

Combination No. : 0 402 646 700

Injection pump

Pump designation : PE6P12OA320LS7917 EP type number : 0 412 626 972

6overnor

Governer design. : RQV350...1050PA1366

Governer no. : 0 421 814 204

Cust. part No. : 0270744002

Customer spec. information Customer : MB-NFZ Motor : 0M401 LA Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 120 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.9
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

		1
Rack travel in man	• 14 40	Rated speed rpm : 570
Tolerance and		guide sleeve
rocer direct than	0.63	travel mm : 3.57
Del. quantity	**************************************	Tolerance mm : + 0.25
cm3/1000 strokes	• 218 በ	I Total di la 100 la 10
CHEST TODO SET ONES	. 210.0	+ Rated speed rpm : 1204
Tolerance		guide sleeve
cm3/1000 strokes	10	travel mm : 10.00
Cast Toda Strokes	1.0	
Check tolerance		Tolerance mma : + 0.25
cm3/1000s.	: ← 4.0	T Sated anada mm . 1700
Chis/ (Odds.	: 4.0	+ Rated speed rpm : 1300
On many made		+ guide sleeve
Spreed		+ travel mm : 11.50
- 1		+ Tolerance mm : + 0.50
Tolerance	5 0	†
cm3/1000 strokes	: 5.0	
~ 1 1		+ GUIDE SLEEVE POSITION
Check tolerance		†
cm3/1000s.	: 9.0	+
		+ control lever
		+ position degree : - 1
		+ Rated speed rpm : 1160
Rated speed rpm	: 350	+
		+ Rack travel in mm : 13.40
Rack travel in mm	: 5.80	+ Tolerance mm : + 1.30
Tolerance mm	: - 0.10	+
Del. quantity		+
cm3/1000 strokes	: 19.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		+
cm3/1000 strokes	: ← 3.0	Rated speed rpm : 1050
Check tolerance		+ Aneroid pressure
cm3/1000s.	: +- 6.0	+ hPa : 1000
Spreed		Del. quantity
Tolerance		+ cm3/1000 strokes : 218.0
cm3/1000 strokes	: 6.0	Tolerance
Check tolerance		- cm3/1000 strokes : + 1.0
cm3/1000s.	: 10.0	Check tolerance
	. 10.0	- cm3/1000s. : +- 4.0
		+ Spreed
(B) SETTING OF IN	JECTION DIMO	+ Tolerance
	RECITOR LOUIL	+ cm3/1000 strokes : 5.0
WITH GOVERNOR		
		+ Check tolerance + cm3/1000s. : 9.0
CITAL CIFE TRAIN	C1	T (MD/1000). : 9.0
GUIDE SLEEVE TRAV	CL.	I
Datad annual	. 1104	<u> </u>
Rated speed rpm	: 1100	CONTROL LEVED
guide sleeve	. 0.00	+ CONTROL LEVER
travel mm	: 8.02	T combined desired
Tolerance man	: +- 0.15	+ control lever
— • .1	750	position degree : 119.0
Rated speed rpm	: 350	tolerance degree : + 4.0
guide sleeve	4 (0	† ,,==, ,,==
travel mm	: 1.48	+ RATED SPEED
Tolerance mm	: ← 0.20	+ rack travel mm : 13.40
		Rated speed rpm : 1095
Rated speed rpm	: 900	+ Tolerance 1/min : +- 5
guide sleeve		+
travel mm	: 5.69	+ rack travel mm : 4.00
Tolerance man		Rated speed rpm : 1185
		•

Check speed 1/min : Check speed 1/min : Check speed 1/min : FUEL DELIVERY CHARAC Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance	> 80 < 290 TERISTICS 1000 700 230.0 + 2.0 + 5.0
Check speed 1/min : Check speed 1/min : Check speed 1/min : FUEL DELIVERY CHARAC Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance	< 270 > 80 < 290 TERISTICS 1000 700 230.0 + 2.0 + 5.0 8.0
Speed 1/min : Check Speed 1/min : FUEL DELIVERY CHARAC Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : Check tolerance	< 290 TERISTICS 1000 700 230.0 + 2.0 + 5.0 8.0
Check speed 1/min : FUEL DELIVERY CHARAC Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000s : Spreed Tolerance cm3/1000s : Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s : Spreed Tolerance cm3/1000 strokes : Check tolerance	< 290 TERISTICS 1000 700 230.0 + 2.0 + 5.0 8.0
Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	1000 700 230.0 ← 2.0 ← 5.0
hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	700 230.0 ← 2.0 ← 5.0
hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	700 230.0 ← 2.0 ← 5.0
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	230.0 + 2.0 + 5.0 8.0
Tolerance cm3/1000 strokes : Check tolerance cm3/1000S. : Spreed Tolerance cm3/1000 strokes : Check tolerance	+- 2.0 +- 5.0 8.0
cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance	8.0
Tolerance cm3/1000 strokes : Check tolerance	
Check tolerance	
cm3/1000s. :	
	12.0
	14.60 +- 0.05
Aneroid pressure	
hPa : Rated speed rpm : Del. quantity	- 5 00
cm3/1000 strokes : Tolerance	135.0
cm3/1000 strokes :	← 1.0
cm3/1000s. :	+- 4.0
Tolerance	8.0
Check tolerance cm3/1000s. :	12.0
DENICEN GHARTTY	
	cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed Tolerance cm3/1000 strokes : Check tolerance

Del. quantity cm3/1000 strokes : 163.0 Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. : +-5.0

STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s.: + 19.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 5.80 Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 19.0

Tolerance cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. : +-6.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

10.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.11.97 Test oil : ISO 4113

Combination No. : 0 402 646 785

Injection pump

Pump designation : PE6P120A320LS7869 EP type number : 0 412 626 887

Governor

Governer design. : RQV300...1050PA1078K

Governer no. : 0 421 815 359

Cust. part No. : 9275445

Customer—spec. information
Customer : LIEBHERR
Motor : D 9406 TI
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 165 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-6-3-5-2-

٠ 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 290.0

Tolerance

cm3/1000 strokes : + 1.0

al 		4
Check tolerance		į.
cm3/1000s.	: + 4.0	+ Rated speed rpm : 450
		+ guide sleeve
preed		+ travel mm : 3.66
		+ Tolerance mm : + 0.25
Tolerance		+
m3/1000 strokes	: 5.0	Rated speed rpm : 1320
Check tolerance		+ travel mm : 13.50
:m3/1000s.	: 9.0	+ Tolerance mm : + 0.50
		+
		+ GUIDE SLEEVE POSITION
ated speed rpm	: 300	+
		+
lack travel in m		+ control lever
olerance mm		position degree : - 1
el. quantity		+ Rated speed rpm : 1185
m3/1000 strokes	: 25.0	+
olerance		Rack travel in mm: 10.80
cm3/1000 strokes	: ← 3.0	+ Tolerance mm : + 1.30
Check tolerance	-	+
m3/1000s.	: +- 6.0	
Spreed		FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		+
cm3/1000 strokes	: 6.0	Rated speed rpm : 1050
Check tolerance		+ Aneroid pressure
m3/1000s.	: 10.0	+ hPa : 1550
		+ Del. quantity
		+ Del. quantity + cm3/1000 strokes : 290.0
(B) SETTING OF IN	VIECTION PLIMP	+ cm3/1000 strckes : 290.0
	NJECTION PUMP	cm3/1000 strckes : 290.0 Tolerance
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	cm3/1000 strckes : 290.0 Tolerance cm3/1000 strokes : + 1.0
	NUECTION PUMP	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
WITH GOVERNOR		cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
		cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
SUIDE SLEEVE TRAN	VEL	- cm3/1000 strokes : 290.0 Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance
SUIDE SLEEVE TRAN	VEL	- cm3/1000 strokes : 290.0 Tolerance - cm3/1000 strokes : + 1.0 Check tolerance - cm3/1000s. : + 4.0 Spreed Tolerance - cm3/1000 strokes : 5.0
SUIDE SLEEVE TRAN Reted speed rpm	VEL : 1117	- cm3/1000 strokes : 290.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
SUIDE SLEEVE TRAN Rated speed rpm guide sleeve cravel mm	VEL : 1117 : 10.38	- cm3/1000 strokes : 290.0 Tolerance - cm3/1000 strokes : + 1.0 Check tolerance - cm3/1000S. : + 4.0 Spreed Tolerance - cm3/1000 strokes : 5.0
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm	VEL : 1117	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
SUIDE SLEEVE TRANS Rated speed rpm guide sleeve travel mm folerance mm	VEL : 1117 : 10.38 : ← 0.25	- cm3/1000 strokes : 290.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
SUIDE SLEEVE TRANS Rated speed rpm guide sleeve ravel mm Tolerance mm	/EL : 1117 : 10.38 : ← 0.25 : 300	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
SUIDE SLEEVE TRANS Rated speed rpm Puide sleeve Pravel mm Colerance mm Rated speed rpm Puide sleeve	/EL : 1117 : 10.38 : ← 0.25 : 300	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
SUIDE SLEEVE TRANS Rated speed rpm puide sleeve ravel mm Rated speed rpm puide sleeve ravel mm	FL: 1117 : 10.38 : + 0.25 : 300 : 1.69	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER
SUIDE SLEEVE TRAN Reted speed rpm guide sleeve travel mm	/EL : 1117 : 10.38 : ← 0.25 : 300 : 1.69	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
Rated speed rpm guide sleeve ravel mm Rated speed rpm guide sleeve ravel mm Rated speed rpm guide sleeve ravel mm Golerance mm	/EL : 1117 : 10.38 : ← 0.25 : 300 : 1.69 : ← 0.25	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0
SITH GOVERNOR SUIDE SLEEVE TRAV Sated speed rpm Solerance mm Sated speed rpm Suide sleeve Travel mm Solerance mm Sated speed rpm Solerance mm	/EL : 1117 : 10.38 : ← 0.25 : 300 : 1.69 : ← 0.25	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
SUIDE SLEEVE TRANS Rated speed rpm guide sleeve ravel mm Rated speed rpm guide sleeve ravel mm Tolerance mm Rated speed rpm guide sleeve ravel mm Tolerance mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0
Rated speed rpm puide sleeve ravel mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm puide sleeve ravel mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30
Rated speed rpm Fulde sleeve Fravel mm Folerance mm Rated speed rpm Fulde sleeve Fravel mm Folerance mm Rated speed rpm Fulde sleeve Fravel mm Folerance mm Rated speed rpm Fulde sleeve Fravel mm Folerance mm Folerance mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20 : + 0.25	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1110
Rated speed rpm Puide sleeve Pravel mm Polerance mm Rated speed rpm Rated speed rpm Puide sleeve Pravel mm Rated speed rpm Rated speed rpm Rated speed rpm Rated speed rpm Puide sleeve Pravel mm Rated speed rpm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20 : + 0.25	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30
SUIDE SLEEVE TRANS Rated speed rpm Fuide sleeve Fravel mm Folerance mm Rated speed rpm Fuide sleeve Fravel mm Folerance mm Rated speed rpm Fuide sleeve Fravel mm Folerance mm Folerance mm Folerance mm Fuide sleeve Fravel mm Folerance mm Folerance mm Folerance mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20 : + 0.25 : 353	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1110 Tolerance 1/min : + 5
Rated speed rpm Fulde sleeve Fravel mm Folerance mm Rated speed rpm Fulde sleeve Fravel mm Folerance mm Rated speed rpm Fulde sleeve Fravel mm Folerance mm Rated speed rpm Fulde sleeve Fravel mm Folerance mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20 : + 0.25 : 353	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve ravel mm Rated speed rpm guide sleeve ravel mm Rated speed rpm guide sleeve ravel mm	/EL : 1117 : 10.38 : + 0.25 : 300 : 1.69 : + 0.25 : 746 : 6.20 : + 0.25 : 353	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200
Rated speed rpm puide sleeve ravel mm rolerance mm rolerance mm rolerance mm rated speed rpm puide sleeve ravel mm rolerance mm	## 10.38 ## 10.38 ## 10.25 ## 300 ## 1.69 ## 0.25 ## 746 ## 6.20 ## 0.25 ## 353 ## 2.45 ## 0.25	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm	## 10.38 ## 10.38 ## 10.25 ## 300 ## 1.69 ## 0.25 ## 746 ## 6.20 ## 0.25 ## 353 ## 2.45 ## 0.25	Tolerance cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : cm3/1000s. : Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : Check tolerance cm3/1000s. : Control lever position degree : 121.0 tolerance degree : RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1110 Tolerance 1/min : rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : Tolerance 1/min :
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T-1	45	l Datadayada	4050
Tolerance 1/min	: ← 15	+ Rated speed rpm	: 1050
		Pressure hPa rack travel mm Tolerance mm	0.10
		Talanana Talanana	9.10
		† Toterance mm	: + 0.20
LOW IDLE		MEASUMEMENT	
		+	
		+ Rated speed rpm	: 1050
control lever	70 0	†	155
position degree		+ Pressure hPa	
tolerance degree	: 4.0	rack travel mm	: 11.00
Setting point w/c	art human canina	Tolerance mm	: ← 0.05
secting bount and	out bumper spring	T Pressure hPa	• 600
Rated speed rpm	: 200	rack travel mm	: 10.50
		Pressure hPa rack travel mm Tolerance mm	: + 0.20
CRT mm min.	: > 6.50	+	`
Tocting		Start interlock	
Testing:		+ Start interlock	
Rated speed rpm	: 300	Rated speed rom	: > 100
rack travel mm	5.00	Rated speed rpm Rated speed rpm	: < 240
Tolerance mm	: + 0.10	- Indica opeca (pill	
		Check	
Rated speed rpm	: 350	+ speed 1/min	· > 80
nacca opoca (pii	. 230	Check	55
		+ speed 1/min	: < 250
TORQUE CONTROL		Speed 17 mill	. \ 250
Rated speed rpm	• 1050	<u> </u>	
rack travel ma		FUEL DELIVERY CHA	PACTERISTICS
Tolerance mm	· + 0.05	I FORE DELIVERY CHA	MACIENIO I I CO
Tolerance mm	: + 0.05	T FOEL DELIVERY CHA	
Tolerance mm Rated speed rom	: ← 0.05 : 500	‡ <u></u>	
Tolerance mm Rated speed rom	: ← 0.05 : 500	Aneroid pressure	
Tolerance mm Rated speed rom	: ← 0.05 : 500	Aneroid pressure	
Tolerance mm	: ← 0.05 : 500	Aneroid pressure hPa Rated speed rpm	: 1550 : 500
Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10	Aneroid pressure hPa Rated speed rpm	: 1550 : 500
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1550 : 500
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1550 : 500 : 288.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1550 : 500 : 288.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1550 : 500 : 288.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1550 : 500 : 288.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1550 : 500 : 288.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1550 : 500 : 288.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 1550 : 500 : 288.0 : +- 3.0 : +- 6.0
Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1550 : 500 : 288.0 : +- 3.0 : +- 6.0
Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1550 : 500 : 288.0 : +- 3.0 : +- 6.0 : 1550 : 800
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm	: 1550 : 500 : 288.0 : +- 3.0 : +- 6.0 : 1550 : 800 : 11.65
Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 1550 : 500 : 288.0 : +- 3.0 : +- 6.0 : 1550 : 800 : 11.65
Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 1550 : 500 : 288.0 : + 3./0 : +- 6.0 : 1550 : 800 : 11.65 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 1550 : 500 : 288.0 : + 3.0 : +- 6.0 : 1550 : 800 : 11.65 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0
Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0
Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Anterior mm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600 : 10.20 : ← 0.10	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Setting Rated speed rpm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600 : 10.20 : ← 0.10 : 10.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Setting Rated speed rpm Tolerance mm Rated speed rpm Rated speed rpm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600 : 10.20 : ← 0.10 : 10.50 : 1550	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0
Rated speed rpm rack travel mm Tolerance mm Setting rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600 : 10.20 : ← 0.10 : 1050 : 12.30	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0 : + 6.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Setting Rated speed rpm Tolerance mm Rated speed rpm Rated speed rpm Tolerance mm	: ← 0.05 : 500 : 10.10 : ← 0.10 : 800 : 11.65 : ← 0.10 : 950 : 12.25 : ← 0.10 : 600 : 10.20 : ← 0.10 : 1050 : 12.30	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1550 : 500 : 288.0 : + 3.0 : + 6.0 : 1550 : 800 : 11.65 : + 0.10 : 302.0 : + 3.0 : + 6.0

cm3/1000 strokes	:	245.0
Tolerance cm3/1000 strokes	: +-	1.0
Check tolerance cm3/1000s.	: +-	4.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100 rack travel mm : 10.00 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 20.0

LOW IDLE

300 Rated speed rpm : 5.00 Rack travel in mm : : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance 10.0 cm3/1000S.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.11.97 Test oil : ISO 4113

Combination No. : 0 402 646 785A

Injection pump

Pump designation: PE6P120A320LS7869
EP type number: 0 412 626 887

Governor

Governer design. : RQV300...1050PA1078K

Governer no. : 0 421 815 359

Cust. part No. : 9275445

Customer—spec. information Customer : LIEBHERR Motor : D 9406 TI Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 165 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-6-3-5-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.30

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 290.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s.	: ← 4.0	Rated speed rpm : 450
Spreed		+ guide sleeve + travel mm : 3.66
Talamana		Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm : 1320
Check tolerance		
cm3/1000s.	: 9.0	Tolerance mm : + 0.50
		GUIDE SLEEVE POSITION
Rated speed rpm	: 300	‡
Rack travel in m		control lever
Tolerance mm	: +- 0.10	position degree : -1
Del. quantity	25.0	Rated speed rpm : 1185
cm3/1000 strokes	: 25.0	14 00
Tolerance	. h. 7.0	+ Rack travel in man: 11.00
cm3/1000 strokes	· - 3.U	† Tolerance mm : + 1.30
Check tolerance cm3/1000s.	: + 6.0	T
Spreed	: +- 0.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		I FOLL COAD DELIVERY AT FOLE COAD STOP
cm3/1000 strokes	: 6.0	Rated speed rpm : 1050
Check tolerance	. 0.0	Aneroid pressure
cm3/1000s.	: 10.0	+ hPa : 1550
G#27 10000;	. 10.0	Del. quantity
		+ cm3/1000 strokes : 290.0
(B) SETTING OF I	NJECTION PUMP	+ Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : + 1.0
		+ Check tolerance
		- + cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAN	VEL	+ Spreed
		+ Tolerance
Rated speed rpm	: 1117	+ cm3/1000 strokes : 5.0
guide sleeve		+ Check tolerance
travel mm	: 10.38	† cm3/1000s. : 9.0
Tolerance mm	: ← 0.25	‡
Rated speed rpm	: 300	CONTROL LEVED
guide sleeve	1 60	+ CONTROL LEVER
travel mm	: 1.69 : + 0.25	t control lever
Tolerance mm	· + 0.25	+ position degree : 121.0
Rated speed rpm	: 746	tolerance degree : +- 4.0
guide sleeve	. 140	Tocci alive deglee . The W.U
travel mm	: 6.20	T RATED SPEED
Tolerance mm	: + 0.25	rack travel mm : 11.00
TOTAL CONTRACTOR		+ Rated speed rpm : 1105
Rated speed rpm	: 353	+ Tolerance 1/min : + 5
guide sleeve		+
travel mm	: 2.45	rack travel mm : 4.00
Tolerance mm	: ← 0.25	+ Rated speed rpm : 1200
		Tolerance 1/min : + 15
Rated speed rpm	: 403	+
guide sleeve		† rack travel mm : 0.50
travel mm	: 3.18	+ Tolerance mm : + 0.50
Tolerance mm	: + 0.25	+ Rated speed rpm : 1300
		•

lerance 1/min	: 15	+ Rated speed rpm	: 550
		Pressure hPa	: -
		+ rack travel am	: 9.10
		Pressure hPa rack travel and Tolerance man	: + 0.20
IDLE		MEASUREMENT	
ol lever		Rated speed rpm	: 1050
tion degree	• 70 0	Pressure hPa	• 470
rance degree	· + // O		
mice degree	. — 4.0	† rack travel mm † Tolerance mm	
ng point w/o	out bumper spring	1	
l coacd one	: 200	Pressure hPa rack travel mm Tolerance mm	• 000 • 10 cn
speed rpm	. 200	Tolongoo To	10.30
m min.	: > 6.50	Toterance mm	. U.2U
ng:		Start interlock	· · · · · · · · · · · · · · · · · · ·
		†	
speed rpm	: 300	+ Rated speed rpm	: > 100
travel mm		Rated speed rpm	: < 240
ence nm	: ← 0.10	† <u>.</u>	
	700	+ Check	
speed rpm	: 350	+ speed 1/min	: > 80
		+ Check	
		+ speed 1/min	: < 250
CONTROL		+	
speed rpm		+	
avel mm	: 12.30	+ FUEL DELIVERY CHA	ARACTERISTICS
	: + 0.05	+	
	.	+	
speed rpm	: 500 : 10.10	+ Aneroid pressure	
ravel mm ince mm	: 10.10	+ hPa	: 1550
nce man	: +- 0.10	hPa Rated speed rpm	: 500
		Del. quantitycm3/1000 strokes	
speed rpm	: 800		: 288.0
ravel mm	: 11.65	+ Tolerance	
nce mm	: + 0.10	+ cm3/1000 strokes	: 3.0
		+ Check tolerance	
speed rpm		+ cm3/1000s.	: ← 6.0
avel mma		+	
ice min		+	
		+ Aneroid pressure	
speed rpm	: 600	+ hPa	: 1550
ravel mm	: 10.20	Rated speed rpm	
ravel mm nce mm	: + 0.10	rack travel mm	
		Tolerance mm	
		Del. quantity	
D/ALTITUDE		+ cm3/1000 strokes	: 302.0
SATOR TEST		Toterance	
21101C 1C01		cm3/1000 strokes	: ← 3.0
		+ Check tolerance	
c		- cm3/1000s.	: +- 6.0
6		T (ms/ 1000s.	0.0
	. 1050	T	
speed rpm	: 1050	Amana 2 d	
e hPa		Aneroid pressure	•
avel mm		† hPa	
e man	: ← 0.05	+ Rated speed rpm	: 550

Del. quantity cm3/1000 strokes Tolerance	: 245.0
m3/1000 strokes Theck tolerance	: ← 1.0
m3/1000s. Spreed	: +- 4.0
Tolerance	. • •
cm3/1000 strokes Check tolerance	
cm3/1000s.	: 12.0
TARTING FUEL DELI	IVERY
Set starting CRT	at K-cam.
	. 400
Rated speed rpm rack travel mm	: 100 : 10.00
Tolerance ma	: + 0.20
Del. quantity	202.0
m3/1000 strokes Folerance	: 200.0
cm3/1000 strokes	: + 15.0
Check tolerance	
cm3/1000s.	: ← 20.0
COW IDLE Rated speed rpm Rack travel in mm Folerance mm Del. quantity cm3/1000 strokes	: 5.00 : ← 0.10
Tolerance	7.0
m3/1000 strokes Check tolerance	: ← 3.0
cm3/1000s.	: + 6.0
Spreed	
rolerance cm3/1000 strokes	: 6.0
Check tolerance	. 0.0
cm3/1000s.	: 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.11.97 Test oil : ISO 4113

Combination No. : 0 402 648 702

Injection pump

Pump designation: PE8P12OA32OLS7915
EP type number: 0 412 628 929

Governor

Governer design. : RQV250...1150PA1346

6overner no. : 0 421 814 193

Cust. part No.

Customer—spec. information Customer : DHI Motor : DV15T Power KW : 272.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 125 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.20
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 16.00 Tolerance mm: + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.80
Tolerance mm : +- 0.05

	+	guide sleeve
Del. quantity		travel mm : 4.65
cm3/1000 strokes	: 222.0	Tolerance man : + 0.25
	<u> </u>	
Tolerance	+	Rated speed rpm : 1390
cm3/1000 strokes	: ← 1.0 }	guide sleeve
		travel mm : 11.50
Check tolerance	+	Tolerance mm : + 0.50
cm3/1000\$.	: ← 4.0 }	
Spreed	+	GUIDE SLEEVE POSITION
	+	
Tolerance	+	
cm3/1000 strokes	: 7.0	control lever
~1		position degree : - 1
Check tolerance		Rated speed rpm : 1227
cm3/1000s.	: 10.0	n at the coal to an a 40 00
		Rack travel in mm: 12.80
	†	Tolerance mm : + 1.30
Detect as and use	. 250	
Rated speed rpm	: 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in man	: 5.60	FULL LUND DELIVER! HI FULL LUND STUP
Tolerance mm	: + 0.10	Rated speed rpm : 1150
Del. quantity	I.	Aneroid pressure
cm3/1000 strokes	: 20.0	hPa : -
Tolerance	. 20.0	Del. quantity
cm3/1000 strokes	: ± 3.0 ±	cm3/1000 strokes : 222.0
Check tolerance	1	Tolerance
cm3/1000s.	: + 6.0	cm3/1000 strokes : + 1.0
Spreed	+	Check tolerance
Tolerance	+	cm3/1000s. : +- 4.0
cm3/1000 strokes	: 5.0	Spreed
Check tolerance	+	Tolerance
cm3/1000s.	: 8.0	cm3/1000 strokes : 7.0
	+	Check tolerance
	+	cm3/1000s. : 10.0
(B) SETTING OF IN	HECTION PUMP +	
WITH GOVERNOR	+	
	+	
		CONTROL LEVER
GUIDE SLEEVE TRAV	tL †	control lever
Dated speed =n=	: 1207	position degree : 58.0
Rated speed rpm guide steeve	: 1207	tolerance degree : +- 4.0
travel mm	: 8.92	totel diffe degree 4.0
Tolerance ma	: + 0.15	control lever
Incerement man	I	position degree : 122.0
Rated speed rpm	: 250	tolerance degree : +- 4.0
guide sleeve		total and adjital to the
travel mm	: 1.31	RATED SPEED
Tolerance mm	: + 0.20 	rack travel mm : 12.80
. w	1	Rated speed rpm : 1195
Rated speed rpm	: 1185	Tolerance 1/min : + 5
guide sleeve	1	
travel mm	: 8.60	rack travel mm : 4.00
Tolerance ma	: ← 0.25 +	Rated speed rpm : 1295
	+	Tolerance 1/min : + 15
Rated speed rpm	: 640	
•	+	rack travel mm : 0.50

Tolerance ann Rated speed rpm	: ← 0.50 : 1400
LOW IDLE	
control lever position degree tolerance degree	: 85.0 : +- 4.0
control lever position degree tolerance degree	: 21.0 : + 4.0
Setting point w/ou	ut bumper spring
Rated speed rpm	: 150
CRT mma main.	: > 7.30
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.60 : + 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mma Tolerance mm	: 1150 : 13.80 : ← 0.65
Rated speed rpm rack travel mm Tolerance mm	: 650 : 13.80 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.80 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.10 : + 0.20

Rated speed rpm	: 500
Pressure hPa rack travel mma Tolerance mma	: 350 : 10.00 : + 0.20
Pressure hPa rack travel mma Tolerance mma	: 735 : 12.10 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 165 : < 190
Check speed 1/min Check	: > 155
speed 1/min	: < 210
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	• -
Rated speed rpm Del. quantity	: 650
cm3/1000 strokes Tolerance	: 241.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: ← 6.0
Aneroid pressure	
hPa Rated speed rpm	: 500
Del. quantity cm3/1000 strokes	: 123.0
Tolerance cm3/1000 strokes Check tolerance	: ← 1.0
cm3/1000s.	: + 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s.	: ← 24.0

LOW IDLE

Rated speed rpm	:		250
Rack travel in mm Tolerance mm	:	+-	5.60 0.10
Del. quantity cm3/†000 strckes Tolerance	:		20.0
cm3/1000 stackes Check tolerance	:	+	3.0
cm3/1000s. Spreed	:	+	6.0
Tolerance cm3/1000 strokes	:		5.0
Check tolerance cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 13.10.97

Test oil

: ISO 4113

Combination No. : 0 402 6/8 919

Injection pump

Pump designation : PEOF120A320LS7843

EP type number : 0 412 628 859

Governor

Governer design. : RQV350...1050PA842

: -8

Governer no.

: 0 421 813 952

Cust. part No. : 022 074 0102

Customer-spec. information Customer : MB-NFZ : 0M442 LA Motor

Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 110 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : ← 1.5 Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 : **←** 0.50 Tolerance mm

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance "NW : **←** 0.75

Barrel no. • 8

BASIC SETTING

Rated speed rpm : 600

Rated speed rpm : 1100 guide sleeve travel mm : 8.1
Tolerance mm : + 0.3
GUIDE SLEEVE POSITION
control lever position degree : - 1 Rated speed rpm : 1125
- +
Rack travel in mm : 17.2 Tolerance mm : + 0.7
FULL LOAD DELIVERY AT FULL
Rated speed rpm : 600 Aneroid pressure hPa : 1000
+ Del. quantity
+ cm3/1000 strokes : 230. + Tolerance
cm3/1000 strokes : +- 1.
+ Check tolerance
+ cm3/1000s. : + 4.
+ Spreed
Tolerance cm3/1000 strokes : 5.
+ Check tolerance
+ cm3/1000s. : 9.
<u>†</u>
Ī
CONTROL LEVER
control lever
+ position degree : 117.
tolerance degree : + 4.
- T RATED SPEED
rack travel mm : 13.5
+ Rated speed rpm : 1095 + Tolerance 1/min : +-
TOCCIONE TANDI
rack travel mm : 4.0
Rated speed rpm : 1175 Tolerance 1/min : + 1
Tolerance 1/min : + 1 rack travel mm : 0.5
+ Tolerance mm : +- 0.5
Rated speed rpm : 1300
-
+
+ LOW IDLE

GUIDE SLEEVE POSI	TION
control lever position degree Rated speed rpm	: - 1 : 1125
Rack travel in mm Tolerance mm	
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated spead rpm Aneroid pressure	: 600
nPa Del. quantity	: 1000
m3/1000 strokes Tolerance	: 230.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s. Spreed	: ← 4.0
Folerance	; 5.0
Check tolerance cm3/1000s.	: 9.0
CONTROL LEVER	
control lever	
position degree tolerance degree	: 117.0 : ← 4.0
_	4.0
RATED SPEED rack travel mm	: 13.50
Rated speed rpm Folerance 1/min	: 1095 : +- 5
roterance min	;
rack travel mm	: 4.00 : 1175
Rated speed rpm Folerance 1/min	: + 173 : + 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50 : 1300
Rated speed rpm	

control lever position degree tolerance degree	: 65.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 7.40
Testing:	
Rated speed rpm rack travel mma Tolerance mma	: 350 : 5.80 : ← 0.30
Rated speed rpm	: 450
TORQUE CONTROL Rated speed rom rack travel mm Tolerance mm	: 600 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 14.60 : + 0.10
Rated speed rom rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1250 : 0.20 : ← 0.10
2-stage LDA setti	ng
Rated speed rpm Pressure hPa	: 600 : 1000
MEASUREMENT	
Rated speed roma	: 600
Pressure hPa rack travel mm Tolerance mm	: 400 : −3.50 : ← 0.10
Pressure hPa	: 550

rack travel mm Tol <i>er</i> ance mm	: -2.20 : +- 0.10
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min	: > 80
Check speed 1/min	: < 290
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: 1500
Rated speed rpm	
Del. quantity	
cm3/1000 strokes	: 230.5
Tolerance	
cm3/1000 strokes	: ← 1.5
Check tolerance	
cm3/1000s.	: +- 4.5
Spreed	
Tolerance	. 00
	: 8.0
Check tolerance	. 40.0
cm3/1000S.	: 12.0
Aneroid pressure	. 1500
NPa	: 1500
Rated speed rpm rack travel mm	: 800 : 14.90
TRUK LITAVEL MM	: + 0.10
	7 1/ 11/
Tolerance mm	
Tolerance mm Del. quantity	
Tolerance mm Del. quantity cm3/1000 strokes	: 238.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 238.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	
Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 238.0

Aneroid pressure	· · · · · · · · · · · · · · · · · · ·
h₽a	: 15 00
Rated speed rpm	: 300
rack travel mm	: 14.90
Tolerance mm	: +- 0.10
Del. quantity	
cm3/1000 strokes	: 238.0
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s.	: +- 5.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
Aneroid pressure	
hPa	: -
Rated speed rpm	: 500
Del. quantity	
cm3/1000 strokes	: 137.0
Tolerance	

Tolerance cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance

12.0

STARTING FUEL DELIVERY

cm3/1000s.

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 260.0
Tolerance
cm3/1000 strokes : +- 15.0

Check tolerance cm3/1000s. : + 20.0

LOW IDLE

Rated speed rpm : 350 Rack travel in mm : 5.80 Tolerance mn: \div 0.30 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1600 strokes : + 3.0 Check tolerance cm3/1000S. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 16.07.97

Test oil

: ISO 4113

Combination No. : 0 402 648 920

Injection pump

Pump designation : PE8P120A320LS7844

EP type number : 0 412 628 860

Governor

Governer design. : RQV350...1050PA870

: --16

Governer no. : 0 421 813 953

Cust. part No. : 022 074 0202

Customer-spec. information

Customer

: MB-NFZ

Motor

: 0M442 LA

Power KW

: 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110
Tolerance L/h : + 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

: 208.5

Tolerance bar : + 1.5

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Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

2.5

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in (m : 20.50

Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : **←** 0.50

Check

: +- 0.75 tolerance *NW

Start of delivery mark

Barrel no.

: 8

CRT ZERO POSITION

Rack travel in mm: 14.30

Tolerance mm : + 0.10

BASIC SETTING

Rated speed rpm : 600

	+ Tolerance mm : + 0.25
Rack travel in mm : 14.30 Tolerance mm : + 0.10	Rated speed rpm : 900 guide sleeve travel mm : 5.65
Del. quantity cm3/1000 strokes : 258.0	Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	+ Rated speed rpm : 1204 - guide sleeve - travel mm : 10.05 - Tolerance mm : + 0.25
Check tolerance cm3/1000s. : +- 4.0	GUIDE SLEEVE POSITION
Spreed	‡
Tolerance cm3/1000 strokes : 5.0	control lever position degree : - 1 Rated speed rpm : 1125
Check tolerance cm3/1000s. : 9.0	Rack travel in mm: 17.25 Tolerance mm: + 0.75
Rated speed rom : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity	Rated speed rpm : 600 Aneroid pressure hPa : 1100
cm3/1000 strokes : 19.0	+ Del. quantity
Tolerance cm3/1000 strokes : + 3.0	+ cm3/1000 strökes : 258.0 Tolerance
Check tolerance cm3/1000s. : +- 6.0	cm3/1000 strokes : + 1.0 Check tolerance
Spreed	+ cm3/1000s. : ← 4.0
Tolerance cm3/1000 strokes : 6.0	+ Spreed + Tolerance
Check tolerance cm3/1000s. : 10.0	+ cm3/1000 strokes : 5.0 + Check tolerance
	cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	†
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 119.0
Rated speed rpm : 1108 guide sleeve	tolerance degree : + 4.0
travel mm : 8.05 Tolerance mm : + 0.25	RATED SPEED
Tolerance mm : + 0.25	+ rack travel mm : 14.30 + Rated speed rpm : 1095
Rated speed rpm : 350 guide sleeve	Tolerance 1/min : + 5
travel mm : 1.55 Tolerance mm : +- 0.25	rack travel mm : 4.00
Tolerance mm : +- 0.25	rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15
Rated speed rpm : 570	rack travel mm : 0.50
guide sleeve travel mm : 3.55	+ Tolerance mm : + 0.50

Rated speed rpm	: 1300	<u></u>	Pressure hPa rack travel mm Tolerance mm	: 0.45
LOW IDLE		Į.	Start interlock	
control lever position degree tolerance degree	: 67.0 : + 4.0	† † †	Rated speed rpm Rated speed rpm	: > 100 : < 270
Setting point w/o	ut bumper spring	7	Check speed 1/min	: > 80
Rated speed rpm	: 250	‡	Check speed 1/min	: < 290
CRT mm min.	: > 6.60	• ‡	FUEL DELIVERY CHA	DACTEDICTICS
Testing:		Ŧ	FOEL DELIVERY CHA	IRACIERISTICS
Rated speed rpm rack travel mm Tolerance mma Rated speed rpm	: 5.00 : \(\to \) 0.10	† † † †	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 272.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 14.30	 	cm3/1000 strokes Check tolerance cm3/1000s.	
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 1050 : 15.30 : + 0.10	† † †	Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 15.30 : +- 0.10
Tolerance mm		† +	cm3/1000 strokes Tolerance cm3/1000 strokes	
ANEROID/ALTITUDE COMPENSATOR TEST		+	Check tolerance cm3/1000s.	: +- 5.0
		Ī	Aneroid pressure	• -
2-stage LDA setti	ng	1	Rated speed rpm Del. quantity	500
Rated speed rpm Pressure hPa	: 600 : 1100	+	cm3/1000 strokes Tolerance	
MEASUREMENT		‡	cm3/1000 strokes Check tolerance cm3/1000s.	
Pressure hPa rack travel mm Toleranse mm		 	REDUCED QUANTITY	
Pressure hPa rack travel mm Tolerance mm	: -1.30	† † †	Aneroid pressure hPa Rated speed rpm	: 1800 : 1050

Del. quantity

cm3/1000 strokes : 206.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : \leftarrow 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 270.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : \leftarrow 14.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 5.00 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : + 6.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.11.97 Test oil : ISO 4113

Combination No. : 0 402 676 840

Injection pump

Pump designation : PE6P12OA32OLS7918 EP type number : 0 412 626 971

Governor

6overner design. : RSV550...1050P0A685

Governer no. : 0 421 833 608

Cust. part No. : 0270744202

Customer—spec. information Customer : MB-NFZ Motor : 0M 441 LA Power KW : 239.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in: mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 14.50 Tolerance mm : + 0.05

	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 227.0	hPa : - Del. quantity
Talanana	cm3/1000 strokes : 227.0
Tolerance cm3/1000 strokes : + 1.0	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : + 4.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
	control lever
Dada di anno di mani di EEO	position degree : 88.0
Rated speed rpm : 550	tolerance degree : + 4.0
Rack travel in mm : 4.30 Tolerance mm : +- 0.10 Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 19.0	Rated speed rpm : 1070
Tolerance	rack travel mm : 13.50
cm3/1000 strokes : +- 3.0 Check tolerance	+ Rated speed rpm : 1122
$cm3/1000s.$: \leftarrow 6.0	+ Tolerance 1/min : +- 4
Spreed Tolerance	† rack travel mm : 4.00
cm3/1000 strokes : 6.0	T rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 10.0	+ Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1071
WITH GOVERNOR	rack travel mm : 13.50
	Botad around pure a 1127
	Rated speed rpm : 1123 Tolerance 1/min : + 4
GUIDE SLEEVE POSITION	rack travel mm : 4.00
	t rack travel non · 0.85
control lever	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
position degree : - 3 Rated speed rpm : 800	Rated speed rpm : 1300
kated speed rpm : ouu	<u> </u>
Rack travel in mm : 0.50	Rated speed rpm : 1072
Tolerance mm : ← 0.20	rack travel mm : 13.50
governor spring	Rated speed rpm : 1124
pre-tension	† Tolerance 1/min : +- 4
click setting x : 2.00	+ rack travel mm : 4.00
	rack travel mm : 0.85
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.55 Rated speed rpm : 1300
Rated speed rpm : 1030	T vared speed (bill : 1300
•	•

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Rated speed rpm rack travel mm	: 1073 : 13.50
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1300
Rated speed rpm rack travel mm	: 1074 : 13.50
Rated speed rpm Tolerance 1/min rack travel mm	: ← 4
rack travel mma Tolerance mma Rated speed rpma	: 0.85 : ← 0.55 : 1300
rack travel mm	: 13.50
rack travel mm	: 4.00
rack travel mm Tolerance mm	: 0.85 : +- 0.55
LOW IDLE	
control lever position degree tolerance degree	
Setting point w/o	out bumper spring
Rated speed rpm	: 450
CRT mm min.	: > 8.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 565 : ← 30
SET IDLE AUXILIAN	RY SPRING
rack travel mm	: 2.00

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1030 : 14.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 960 : 14.70 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 15.30 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 15.20 : ← 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.95 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 650 : 13.85 : ← 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	600
rack travel mm	:	15.30
Tolerance mm	: 1	- 0.10
Del. quantity		
cm3/1000 strokes	:	260.0
Tolerance		
cm3/1000 strokes	; 1	- 3.0
Check tolerance		
cm3/1000s.	: 4	- 6.0

Tolerance cm3/1000 strokes Check tolerance	: 8.0
m3/1000s.	: 12.0
Ineroid pressure	•
hPa Rated speed rpm	500
Del. quantity cm3/1900 strokes Tolerance	: 159.0
cm3/1000 strokes Check tolerance	: ← 1.0
cm3/1000s.	: ← 4.0
Spreed Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes	: 250.0
Tolerance cm3/1600 strokes	: + 15.0
Check tolerance cm3/1000s.	: ← 19.0
LOW IDLE	
Rated speed rpm	: 550
Rack travel in mon	
Tolerance mm Del. quantity	: ← 0.10
cm3/1000 strokes Tolerance	: 19.0
cm3/1000 strokes	: - 3.0
Check tolerance cm3/1000s.	: +- 6.0
Spreed Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 10.0
	•

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Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.97 Test oil : ISO 4113

Combination No. : 0 402 738 800

Injection pump

Pump designation : PE8P13DA720/3LS7443

EP type number : 0 412 738 801

Governor

Governer design. : RQV350...900PA1359

Governer no. : 0 421 814 202

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI
Motor : V1708T2-SPE

Power KW : 815.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 160 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-2-6-3-4-5-7-8

Phasing : 0-45-90-135-180-225

: -270-315 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 420.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : \leftarrow 5.0

	+ Tolerance mm : +- 1.30
Spreed	
Tolerance cm3/1000 strokes : 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	Rated speed rpm : 900 Aneroid pressure
cm3/1000s. : 10.5	+ hPa : 900
	+ Del. quantity + cm3/1000 strokes : 420.0
Rated speed rom : 350	Tolerance cm3/1000 strokes : + 1.0
	- Check tolerance
Rack travel in mm : 4.20 Tolerance mm : +- 0.10	+ cm3/1000s. : +- 5.0 + Spreed
Del. quantity	+ Tolerance
cm3/1000 strokes : 25.0 Tolerance	cm3/1000 strokes : 6.0 Check tolerance
cm3/1000 strokes : + 3.0	cm3/1000s. : 10.5
Check tolerance cm3/1000s. : + 7.0	<u>†</u>
Spreed	ļ
Tolerance cm3/1000 strokes : 9.5	+ CONTROL LEVER
Check tolerance	- control lever
cm3/1000s. : 13.0	<pre>position degree : 115.0 tolerance degree : + 4.0</pre>
(P) OFFERIO OF THEOTICAL DIME	+
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ RATED SPEED + rack travel mm : 13.80
	+ Rated speed rpm : 945
GUIDE SLEEVE TRAVEL	Tolerance 1/min : + 5
Rated speed rpm : 958	+ rack travel mm : 4.00 + Rated speed rpm : 1065
guide sleeve	Tolerance 1/min : + 15
travel mm : 3.29 Tolerance mm : + 0.15	+ rack travel mm : 0.50
	+ Tolerance mm : ← 0.50
Rated speed rpm : 350 guide sleeve	Rated speed rpm : 1150
travel mm : 2.31	+
Tolerance mm : +- 0.20	‡
Rated speed rpm : 690	+ LOW IDLE
guide sleeve travel mm : 5.08	Ĭ
Tolerance mm : + 0.25	control lever
Rated speed rpm : 1160	<pre>position degree : 67.0 tolerance degree : + 4.0</pre>
guide sleeve travel mm : 11.50	+ Setting point w/out bumper spring
Tolerance and : + 0.50	+
	Rated speed rpm : 200
GUIDE SLEEVE POSITION	CRT mm min. : > 6.00
Rated speed rpm : 1011	Testing:
Rack travel in mm : 13.80	Rated speed rpm : 350

B09

rack travel mm 4.20 : **←** 0.10 Tolerance ma 2.00 rack travel am Rated speed rom 490 Tolerance 1/min : +-Rated speed rom : 415 TORQUE CONTROL 900 Rated speed rpm : rack travel mm 14.80 Tolerance mm : + 0.05Rated speed rom 500 14.85 rack travel mm Tolerance mm : + 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING 600 Rated speed rpm 900 Pressure hPa rack travel mm 14,80 : + 0.05Tolerance mm Rated speed rpm 600 Pressure hPa 10.00 rack travel mm Tolerance mm : + 0.10**MEASUREMENT** Rated speed rpm 600 Pressure hPa 250 rack travel mm 10.80 : + 0.20Tolerance non 320 Pressure hPa : 12.60 rack travel mm : + 0.05Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 500 Rated speed rpm

Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s.10.5 STARTING FUEL DELIVERY ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting. Rated speed rpm : 100 rack travel mm 20.50 Tolerance mm : + 0.50LOW IDLE Rated speed rpm : 350 4.20 Rack travel in mm : : + - 0.10Tolerance mm Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.7.0 Spreed Tolerance cm3/1000 strokes : 9.5

End of test specification sheet

13.0

Check tolerance cm3/1000s.

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 5.0

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Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.11.97 Test oil : ISO 4113

Combination No. : 0 402 746 636

Injection pump

Pump designation : PES6P120A720RS7445 EP type number : 0 412 726 973

Governor

Governer design. : RQ300/1100PA1360 Governer no. : 0 421 801 824

Cust. part No. : 618.00.08.0048

Customer—spec. information Customer : SNF Motor : WD618.42 Power KW : 310.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 155 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.40 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 45.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.80
Tolerance mm : + 0.05

Del. quantity		+ Tolerance mm : ← 0.10
cm3/1000 strokes	: 274.0	†
		+ Rated speed rpm : 500
Tolerance		+ guide sleeve
cm3/1000 strokes	: - 1.0	+ travel mm : 6.00
		+ Tolerance mm : + 0.10
Check tolerance		†
cm3/1000s.	: ← 4.0	+ Rated speed rpm : 1290
		+ guide sleeve
Spreed		+ travel mm : 11.50
~ .		Tolerance mm : + 0.50
Tolerance		†
cm3/1000 strokes	: 5.0	CUIDE OF EACH DOOLETAN
Charle dal annua	· · · · · · · · · · · · · · · · · · ·	+ GUIDE SLEEVE POSITION
Check tolerance	: 9.0	†
cm3/1000s.	: 9.0	†
		control lever
		+ position degree : 109 + Rated speed rpm : 600
Datad annual man	: 309	Rated speed rpm : 600
Rated speed rpm	: 509	Rack travel in mm: 20.00
Rack travel in mm	n: 8.20	+ Tolerance mm : + 0.80
Tolerance mm		Toterance am : TOto
Del. quantity	. +- 0.10	T
cm3/1000 strokes	: 20.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	. 20.0	T FOLL COAD DELIVERY AT FOLL COAD STOP
cm3/1000 strokes	• - 30	Rated speed rpm : 1100
Check tolerance	: 3.0	+ Rated speed rpm : 1100 + Aneroid pressure
cm3/1000s.	: +- 6.0	1 1 -
	: +- 0.0	+ hPa : 1200 + Del. quantity
Spreed Tolerance		- cm3/1090 strokes : 274.0
cm3/1000 strokes	: 8.0	Tolerance
Check tolerance	. 0.0	cm3/1000 strokes : + 1.0
cm3/1000s.	: 12.0	Check tolerance
Cia3/ 10003.	. 12.0	- cm3/1000s. : + 4.0
		Spreed . +- 4.0
(B) SETTING OF IN	ALECTION SUMD	Tolerance
WITH GOVERNOR	ADECITOR LOGIC	- cm3/1000 strokes : 5.0
MTILL GOACKIAOK		Check tolerance
·		- cm3/1000s. : 9.0
GUIDE SLEEVE TRAN	/Fi	1 (1857) (3660)
GOIDE OCECTE HAI	,	1
Rated speed rpm	: 1158	+
guide sleeve		+ CONTROL LEVER
travel mm	: 6.35	+
Tolerance man	: +- 0.15	† control lever
		+ position degree : 99.0
Rated speed rpm	: 300	+ tolerance degree : + 4.0
guide sleeve		+
travel mm	: 1.74	+ RATED SPEED
Tolerance mm	: + 0.20	† rack travel mm : 13.80
		Rated speed rpm : 1153
Rated speed rpm	: 1100	Tolerance 1/min : +- 8
guide sleeve		+
travel mm	: 6.00	rack travel mm : 4.00
Tolerance mm	: ← 0.10	- Rated speed rpm : 1225
		Tolerance 1/min : +- 15
Rated speed rpm	: 425	+
guide sleeve		+ rack travel mm : 0.70
travel mm	: 5.00	+ Tolerance mm : $+$ 0.70

Rated speed rpm	: 1350	‡
LOW IDLE		† †
control lever position degree tolerance degree	: 76.0 : + 4.0	†
Setting point w/o	ut bumper spring	Ŧ
Rated speed rpm	: 200	Ŧ
CRT mm min.	: > 10.00	Ŧ
Testing:		Ŧ
Rated speed rpm rack travel mm Tolerance mm	: 300 : 8.20 : + 0.10	† †
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 425 : + 20	+++++++++++++++++++++++++++++++++++++++
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 14.80 : + 0.05	† † † †
Rated speed rpm rack travel mma Tolerance mma	: 700 : 14.85 : + 0.10	† † † †
ANEROID/ALTITUDE COMPENSATOR TEST		† † †
SETTING		1
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 14.80 : ← 0.10	+++++++++++++++++++++++++++++++++++++++
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.90 : + 0.20	+++++++++++++++++++++++++++++++++++++++
MEASUREMENT		Ŧ
Rated speed rpm	: 500	Ŧ
Pressure hPa	: 700	Ţ

1	rack travel mm : 14.10
+	Tolerance mm : + 0.05
Ţ	Pressure hPa : 375
+	rack travel mm : 12.40
1	Tolerance mm : +- 0.20
+	
1	FUEL DELIVERY CHARACTERISTICS
+	TOLE PLEIVENT GHANAGTERIOTICS
1	Aneroid pressure
+	hPa : 1200
+	Rated speed rpm : 700
İ	Del. quantity cm3/1000 strokes : 288.0
1	Tolerance
+	cm3/1000 strokes : + 3.0
• ‡	Check tolerance cm3/1000s. : +- 6.0
+	
†	Anonorid programs
I	Aneroid pressure hPa : -
+	Rated speed rpm : 500
†	Del. quantity cm3/1000 strokes : 176.0
I	Tolerance
+	cm3/1000 strokes : +- 1.0
†	Check tolerance cm3/1000S. : +- 4.0
Į	CHS/10003 +- 4.0
+	
Ţ	STARTING FUEL DELIVERY
+	Data da maria da Maria
İ	Rated speed rpm : 100 rack travel mm : 11.90
+	Tolerance mm : + 0.30
+	Del. quantity
1	om3/1000 strokes : 125.0 Tolerance
+	cm3/1000 strokes : + 10.0
+	Check tolerance
1	cm3/1000s. : +- 14.0
+	
+	
Ī	LOW IDLE
+	_
‡	Rated speed rpm : 300
+++++++++++++++++++++++++++++++++++++++	Rack travel in mm : 8.20
†	Tolerance mm : + 0.10
I	Del. quantity cm3/1000 strokes : 20.0
+	Tolerance
+	cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0 Spreed

Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.11.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 637

Injection pump

Pump designation : PES6P12OA32ORS7449

EP type number : 0 412 726 974

6overnor

6overner design. : RQ275/1050PA1372 Governer no. : 0 421 801 830

Cust. part No. :

Customer-spec, information

Customer : RENAULT V.I. : MI7RO62045 B41 Motor

Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har : **←** 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke am 4.70 : + 0.05Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance 'NW : **←** 0.75

Start of delivery mark

*NW after s.o.d. : -1.45 Tolerance

: **←** 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 12.50 Tolerance mm : + 0.05

Cm3/1000 strokes : 193.0 BASIC SETTING Rated speed rpm : 600 Check tolerance cm3/1000s. : + 4.0 Del. quantity Cm3/1000 strokes : + 1.0 Spreed
Rated speed rpm : 600 + Check tolerance + cm3/1000s. : + 4.0
- cm3/1000s. : + 4.0
it. Quantity T object
13/1000 strokes : 193.0 + Tolerance
olerance — — — — — — — — — — — — — — — — — — —
$\frac{13}{1000}$ strokes : \leftarrow 1.0 $+$ cm3/1000s. : 9.0
neck tolerance + RATED SPEED
+ rack travel mm : -1.0
reed + Rated speed rpm : 1120 + Tolerance 1/min : +-
plerance
+ Tolerance mm : $+$ 0.5
neck tolerance + Rated speed rpm : 1350 + Rated speed rpm : 1350

ated speed rpm : 275 + LCW ICLE
ack travel in mm: -6.80 + Testing:
olerance mm : + 0.10 +
el. quantity + Rated speed rpm : 275 n3/1000 strokes : 31.0 + rack travel mm : -6.8
blerance - Tolerance mm : + 0.1
n3/1000 strokes : +- 2.0 +
neck tolerance
n3/1000s. : + 5.0 + TORQUE CONTROL preed + Rated speed rpm : 600
preed + Rated speed rpm : 600 blerance
13/1000 strokes : 8.0 + Rated speed rpm : 1050
eck tolerance
3/1000s. : 12.0 <u> </u>
ANEROID/ALTITUDE
B) SETTING OF INJECTION PUMP + COMPENSATOR TEST ITH GOVERNOR +
SETTING
UIDE SLEEVE POSITION + Rated speed rpm : 500
Pressure hPa : 1000
ontrol lever Rated speed rpm : 500
osition degree : 109 + Pressure hPa : - rack travel mm : -2.0
Tolerance mm : + 0.2 ULL LOAD DELIVERY AT FULL LOAD STOP
+ MEASUREMENT
ated speed rpm : 600
peroid pressure + Rated speed rpm : 500 +
Pressure hPa : 320

rack travel mma	: -0.85
Tolerance mma	: + 0.15
Pressure hPa	: 160
rack travel mm	: −1.70
Tolerance mm	: ← 0.05
Start interlock	
Rated speed rpm	: > 100
Rated speed rpm	: < 195
Check speed 1/min Check speed 1/min	: > 80 : < 215
specu (/ iii) ;	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm Del. quantity	:	1000 1050
cm3/1000 strokes	:	198.0
Tolerance cm3/1000 strokes Check tolerance	: +	- 3.0
cm3/1000s.	: +	- 6.0

Aneroid pressure			
hPa	:		
Rated speed rpm	:		500
Del. quantity cm3/1000 strokes	:		147.0
Tolerance cm3/1000 strokes	:	+-	1.0
Check tolerance cm3/1000s.	:	+	4.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	150.0
Tolerance cm3/1000 strokes	: +	- 15.0
Check tolerance cm3/1000s.	: +	- 19.0

LOW IDLE

Rated speed rpm	:		275
Rack travel in man Tolerance man Del. quantity	:	+-	-6.80 0.10
cm3/1000 strokes	:		31.0
cm3/1000 strokes	:	+-	2.0
Check tolerance cm3/1000S. Spreed	:	+-	5.0
Tolerance cm3/1000 strokes Check tolerance	:		8.0
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.11.97 Edition Edition : U4.11.97
Test oil : ISO 4113

Combination No. : 0 402 746 638

Injection pump

Pump designation : PES6P120A320RS7449 EP type number : 0 412 726 974

Governor

Governer design. : RQ275/1050PA1373 6cverner no. : 0 421 801 831

Cust, part No. :

Customer-spec. information

Customer : RENAULT V.I. : MI7RO62045 C41 Motor

: 152.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : **←** 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h : 220
Tolerance L/h :

10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.95

Tolerance : \leftarrow 0.50 Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 11.70 Tolerance mm : + 0.05	Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0
BASIC SETTING	Tolerance cm3/1000 strokes : +- 1.0
Rated speed rpm : 1050	Check tolerance cm3/1000s. : +- 4.0 Spreed
Del. quantity cm3/1000 strokes : 176.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : + 4.0	RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1115
Spreed	Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : 5.0	rack travel mm : -11.20 Tolerance mm : +- 0.50 Rated speed rpm : 1350
Check tolerance cm3/1000s. : 9.0	
	LOW IDLE
Rated speed rpm : 275	Testing:
Rack travel in mm: -6.10 + Tolerance mm: + 0.10 + Del. quantity	Rated speed rpm : 275 rack travel mm : -6.10
cm3/1000 strokes : 28.0 + Tolerance +	Tolerance mm : + 0.10
cm3/1000 strokes : + 2.0 + Check tolerance + 5.0 + 5.0	TORQUE CONTROL Rated speed rpm : 1050
Spreed + Tolerance +	Rated speed rpm : 600
cm3/1000 strokes : 8.0 + Check tolerance	rack travel mm : 0.80 Tolerance mm : +- 0.10
cm3/1000s. : 12.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	ANEROID/ALTITUDE COMPENSATOR TEST
‡	SETTING
GUIDE SLEEVE POSITION	Rated speed rpm : 500 Pressure hPa : 1000
control lever position degree : 109	rack travel mm : 1.00 Tolerance mm : + 0.10
<u> </u>	Rated speed rpm : 500 Pressure hPa : - rack travel mm : -1.00
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050	rack travel mm : -1.00 Tolerance mm : $+$ 0.20
Maren Sheen i Mill • 1000 T	

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MEASUREMENT

Rated speed rpm	:	500
Pressure hPa rack travel mm	:	280 0.65
Tolerance am	: : +	
Pressure hPa	:	160

Pressure hPa	:	160
rack travel mm	:	-0.15
Tolerance mm	: +	- 0.05

Start interlock

speed speed	: > : <	100 195

Check			
speed	1/min	; >	80

Check			
speed	1/min	: <	21:

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1000
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	193.0
Toterance		
cm3/1000 strokes	: +	- 3.0

Check tolerance		
cm3/1000s.	: +-	6.0

Ane	roid	pressure

hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	149.0
Tolerance		
cm3/1000 strokes	: +	- 1.0
Check tolerance		
200001 Feb		_ / 0

CM3/1UUUS.	: +- 4.1		

STARTING FUEL DELIVERY

	:	100
Del. quantity cm3/1000 strokes	:	155.0
Tolerance cm3/1000 strokes	: +	15.0
Check tolerance cm3/1000s.	: +-	19.0

LOW IDLE

Rated speed rpm	:	275	
Rack travel in mm Tolerance mm Del. quantity	: +-	-6.10 0.10	
cm3/1000 strokes Tolerance	:	28.0	
	: +	2.0	
cm3/1000S. Spreed Tolerance	: +-	5.0	
cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.97 Test oil : ISO 4113

Combination No. : 0 402 746 639

Injection pump

Pump designation : PES6P120A320RS7359

: -3

EP type number : 0 412 726 975

Governor

Governer design. : R0275/1050PA1217-2

Governer no. : 0 421 801 832

Cust. part No. : CCEP 5172 66-255

Customer—spec. information

Customer : RENAULT V.I.
Motor : MIDRO62045 J41

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.80
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

. .

Rack travel in mm : 20.25
Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : -0.45 Tolerance : +- 0.50

Tolerance : +-Check

tolerance *NW : + 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 13.40 Tolerance mm : +- 0.05

BASIC SETTING

Rated speed rpm : 600 +	Tolerance cm3/1000 strokes : +- 1.0
<u> </u>	Check tolerance
Tolerance man : + 0.05	cm3/1000s. : +- 4.0 Spreed
Del. quantity cm3/1000 strokes : 285.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : + 4.0	RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1115
Spreed	Rated speed rpm : 1115 Tolerance 1/min : + 15
Tolerance cm3/1000 strokes : 5.0	rack travel mm : -12.90 Tolerance mm : +- 0.50 Rated speed rpm : 1350
Check tolerance cm3/100Cs. : 9.0	
	LOW IDLE
Rated speed rpm : 275	Testing:
Rack travel in mm : -6.90 + Tolerance mm : + 0.10 + Del. quantity	Rated speed rpm : 275 rack travel mm : -6.90
cm3/1000 strokes : 27.0 + Tolerance +	Tolerance mm : +- 0.10
cm3/1000 strokes : +- 2.0 + 2.	TORQUE CONTROL Rated speed rpm : 600
Spreed + Tolerance +	Tolerance mm : +- 0.05
cm3/1000 strokes : 8.0 + Check tolerance cm3/1000s. : 12.0 + Cm3/1000s.	Rated speed rpm : 1050 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP	ANEROID/ALTITUDE COMPENSATOR TEST
WITH GOVERNOR +	SETTING
GUIDE SLEEVE POSITION	Rated speed rpm : 500 Pressure hPa : 1000
control lever position degree : 109	Rated speed rpm : 500 Pressure hPa : - rack travel mm : -2.85 Tolerance mm : + 0.20
FULL LOAD DELIVERY AT FULL LOAD STOP	MEASUREMENT
Rated speed rpm : 600 Aneroid pressure	Rated speed rpm : 500
hPa : 1000 + Del. quantity cm3/1000 strokes : 285.0 +	Pressure hPa : 520 rack travel mm : -0.60
·	

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Tolerance mm	: ← 0.15
Pressure hPa	: 240
rack travel mm	: −2.20 : ← 0.05
Tolerance mm	: ← 0.05
Start interlock	
Rated speed rom	: > 100
Rated speed rpm Rated speed rpm	: < 195
Check	
speed 1/min Check	: > 80
speed 1/min	: < 215
FUEL DELIVERY CHAR	RACTERISTICS
Aneroid pressure	والمستود وال
hPa	: 1000
Rated speed rpm	: 1050
Del. quantity cm3/1000 strokes	: 293.0
Tolerance	
cm3/1000 strokes Check tolerance	: + 3.0
cm3/1000s.	: ← 6.0
An	T Addition I design Addition to the Control of the
Aneroid pressure hPa	: -
Rated speed rpm	500
Del. quantity	
cm3/1000 strokes Tolerance	; DU.U
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
STARTING FUEL DELI	IVERY
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 145.0
Tolerance	
cm3/1000 strokes	: +- 15.0
Charle dalamana	: +- 19.0
Check tolerance	· · // • · ·
cm3/1000s.	· -

Rack travel in mm : -6.90
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 27.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.11.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 957

Injection pump

Pump designation : PES6P120A720RS7292

: -1

: 0 412 726 939 EP type number

Governor

Governer design. : RQV350...1150PA1074

: -2K

: 0 421 815 367 Governer no.

: 0250741002 Cust. pert No.

Customer-spec. information : MB-NFZ Customer : 0M366LA Motor Power KW : 757.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : : + 0.1 Tolerance bar

Overflow quantity

: 100 min. l/h Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.00 : +- 0.05 Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm : 20.50 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30 : + 0.10 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150	guide sleeve travel mm : 5.56 Tolerance mm : +- 0.25
Rack travel in man: 14.10 Tolerance man: + 0.05	Rated speed rpm : 550 guide sleeve travel mm : 3.17
Del. quantity cm3/1900 strokes : 269.0	Tolerance mm : +- 0.25 Rated speed rpm : 1480
Tolerance cm3/1000 strokes : + 1.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : + 4.0	GUIDE SLEEVE POSITION
Spreed	
Tolerance cm3/1000 strokes : 8.0	control lever position degree : - 1 Rated speed rpm : 1331
Check tolerance cm3/1000s. : 12.0	Rack travel in mm: 13.50 Tolerance mm: + 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 6.00 Tolerance mm: + 0.10	Rated speed rpm : 1150 Aneroid pressure hPa : 1500
Del. quantity + cm3/1000 strokes : 13.0 + Tolerance + cm2/1000 strokes : 13.0 + cm2/1000 strokes	- hPa : 1500 - Del. quantity - cm3/1000 strokes : 269.0
cm3/1000 strokes : + 3.0 Check tolerance	- Tolerance - cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0 + 5 cm3/1000s +- 6.0 +- +- 6.0 +- +- +- +- +- +- +- +- +- +- +- +- +-	- Check tolerance - cm3/1000S. : + 4.0 - Spreed
cm3/1000 strokes : 4.0 + Check tolerance	Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : 8.0	Check tolerarice cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	- control lever
Rated speed rpm : 1206 guide sleeve	- position degree : 109.0 - tolerance degree : +- 4.0 -
travel mm : 9.35	RATED SPEED
Tolerance mm : + 0.15	- rack travel mm : 13.40 - Rated speed rpm : 1195
Rated speed rpm : 350 guide sleeve	Tolerance 1/min : +- 5
travel mm : 1.53 + Tolerance mm : + 0.20 +	- rack travel mm : 4.00 - Rated speed rpm : 1325
+	Tolerance 1/min : + 15
Rated speed rpm : 855	-

rack travel mma Tolerance mma Rated speed rpma	: 0.70 : ← 0.70 : 1400
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 250
CRT mm min.	: > 6.90
Testing:	
Rated speed rpm rack travel mma Tolerance mm	: 350 : 6.00 : ← 0.10
Rated speed rum	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 14.10 : ← 0.05
Rated speed rpm rack travel mm Tolerænce mm	: 950 : 13.95 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.30 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : 1500 : 14.10 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : - : 10.10 : + 0.15

Rated speed rpm	: 1150			
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.90 : + 0.05			
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.50 : + 0.15			
Start interlock				
Rated speed rpm Rated speed rpm	: > 100 : < 200			
Check speed 1/min Check	: > 80			
speed 1/min	: < 250			
FUEL DELIVERY CHA	RACTERISTICS			
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 13.30 : + 0.10 : 265.0 : + 2.0 : + 5.0			
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.				
STARTING FUEL DEL	IVERY			
Set starting CRT at K-cam.				

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 350 6.00 Rack travel in mm: Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance

End of test specification sheet

8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.08.97 Test oil : ISO 4113

Combination No. : 0 403 444 150

Injection pump

Pump designation : PES4MW100/720RS1212

EP type number : 0 413 404 114

Governor

6overner design. : RQV300...1300MW50

: -23

Governer no. : 0 420 083 269

Cust. part No. : 0250741602

Customer—spec. information Customer : MB-NFZ Motor : ON364LA Power KW : 102.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05

Check

tolerance mme : ← 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 13.15
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

B28

Check tolerance cm3/1000s. : 6.0	control lever position degree : 112.0 tolerance degree : + 4.0
Rated speed rpm : 300	RATED SPEED : 12.10
Rack travel in mm : 6.40 Tolerance mm : +- 0.10 Del. quantity	Rated speed rpm : 1345 Tolerance 1/min : + 5
cm3/1000 strokes : 12.0 Tolerance	rack travel mma : 4.00 Rated speed rpm : 1465
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance 1/min : + 15
cm3/1000s. : +- 4.5 Spreed Tolerance	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1550
cm3/1000 strokes : 3.5 Check tolerance	Hateu speed (piii . 1550
cm3/1000s. : 5.5	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	T COW TALE
	control lever position degree : 75.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
control lever position degree : - 1	Rated speed rpm : 200
Rated speed rpm : 1350	CRT mm min. :> 8.00
Rack travel in mm: 16.50 Tolerance mm: + 1.30	Testing: Rated speed rpm : 300
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 6.40 Tolerance mm : + 0.10
Rated speed rpm : 1300	
Aneroid pressure hPa : 700	TORQUE CONTROL Rated speed rpm : 1300
Del. quantity cm3/1000 strokes : 100.0	rack travel mm : 13.15 Tolerance mm : + 0.05
Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance -	Rated speed rpm : 600 rack travel mm : 13.20
cm3/1000s. : +- 3.0 Spreed	Tolerance mm : + 0.10
Tolerance - cm3/1000 strokes : 3.5 - Check tolerance -	ANEROID/ALTITUDE COMPENSATOR TEST
cm3/1000s. : 6.0	TOTAL CONTON TEOT
	SETTING
CONTROL LEVER -	Rated speed rpm : 500 Pressure hPa : 700 rack travel mm : 13.20

Tolerance mm	: +-	0.10		
Rated speed rpm	:	500		
Pressure hPa	:	-		
rack travel mm		9.90		
Tolerance mm	: +-	0.10		
MEASUREMENT				
Rated speed rpm	:	500		
Pressure hPa	:	400		
rack travel mm		12.70		
Tolerance mm	: +-	0.10		
Pressure hPa		200		
rack travel mm	:	11.00		
Tolerance mm	: +-	0.10		
Start interlock				
Rated speed rpm	: >	100		
Rated speed rpm Rated speed rpm	: <	220		
Check				
speed 1/min	: >	80		
speed 1/min Check speed 1/min	: <	240		
speed 1/min Check	: <	240		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure	: <	240 RISTICS		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa	: <	240 RISTICS 700		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: <	240 RISTICS		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: < RACTE	240 RISTICS 700		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: < RACTE	700 600 87.5		-
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: < RACTE	240 RISTICS 700 600		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: < RACTE	700 600 87.5		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: < RACTE	700 600 87.5		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: < RACTE	700 600 87.5 1.5 4.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: < RACTE	700 600 87.5		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: < RACTE	700 600 87.5 1.5 4.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: < RACTE	700 600 87.5 1.5 4.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: < RACTE	700 600 87.5 1.5 4.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: < RACTE	240 RISTICS 700 600 87.5 1.5 4.0 5.0 7.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: < RACTE	700 600 87.5 1.5 4.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: < RACTE	240 RISTICS 700 600 87.5 1.5 4.0 5.0 7.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes	: < RACTE	240 RISTICS 700 600 87.5 1.5 4.0 5.0 7.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: < RACTE	240 RISTICS 700 600 87.5 1.5 4.0 5.0 7.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance	: < RACTE	240 RISTICS 700 600 87.5 1.5 4.0 5.0 7.0 500 35.0 1.0		
speed 1/min Check speed 1/min FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes	: < RACTE	240 RISTICS 700 600 87.5 1.5 4.0 5.0 7.0 500 35.0		

STARTING FUEL DEL	IVERI	ſ	
Rated speed rpm	:	100	
Del. quantity cm3/1000 strokes	:	90.0	
Tolerance cm3/1000 strokes	: +	- 5.0	
Check tolerance cm3/1000S.	: +	- 8.0	
LOW IDLE			
Rated speed rpm	:	300	
Rack travel in mm Tolerance mm	: +	6.40	
Del. quantity	• .		
cm3/1000 strokes	:	12.0	
Tolerance cm3/1000 strokes	: +-	- 2.0	
Check tolerance			
cm3/1000s. Spreed	: +-	- 4.5	
Tolerance			
	:	3.5	
Check tolerance cm3/1000s.	:	5.5	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition Test oil : 23.01.98 : ISO 4113

Combination No. : F 000 409 212

Injection pump

Pump designation : PES6A95D41ORS2923 EP type number : F 000 400 401

Governor

Governer design. : RQV300...1300AB1326L

Governer no. : F 000 420 302

Cust. part No. : A 028 074 51 02

Customer—spec. information

Customer : MB8

Motor : OM 366LA/EuroI

Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 19.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 97.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance - 3.5	Tolerance mm : + 1.50
Check tolerance cm3/1000s. : 8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
*	- Rated speed rpm : 1300 - Aneroid pressure
Rated speed rpm : 300	- hPa : 900 - Del. quantity - cm3/1000 strokes : 97.0
Rack travel in mm : 6.60 - Tolerance mm : + 0.10 -	Tolerance - cm3/1000 strokes : + 1.0
Del. quantity cm3/1000 strokes : 13.0	- Check tolerance - cm3/1000s. : +- 3.0
Tolerance - cm3/1000 strokes : +- 2.0 -	- Spreed - Tolerance
Check tolerance cm3/1000s. : +- 4.5	- cm3/1000 strokes : 3.5 - Check tolerance
Spreed - Tolerance -	- cm3/1000s. : 8.0
cm3/1000 strokes : 5.5 - Check tolerance -	
cm3/1000s. : 9.0 -	- CONTROL LEVER -
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- control lever - position degree : 113.0 - tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	- RATED SPEED - rack travel mm : 12.50
Rated speed rpm : 1500 - guide sleeve	- Rated speed rpm : 1345 - Tolerance 1/min : +- 5
travel mm : 9.70 - Tolerance mm : + 0.05 -	- rack travel mm : 4.00 - Rated speed rpm : 1520 - Tolerance 1/min : +- 15
Rated speed rpm : 300 - guide sleeve	- - rack travel mm : 0.50
travel mm : 1.30 - Tolerance mm : + 0.25	- Tolerance mm : +- 0.50 - Rated speed rpm : 1640
Rated speed rpm : 500 guide sleeve	- -
travel mm : 2.90 Tolerance mm : + 0.25	- LOW IDLE
Rated speed rpm : 750 guide sleeve	control lever
travel mm : 4.80 Tolerance mm : + 0.10	position degree : 73.0 tolerance degree : +- 4.0
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	- Rated speed rpm : 100
control lever position degree : -1	- CRT man min. : > 9.00
Rated speed rpm : 1366	Testing:
Rack travel in mm: 16.50	Rated speed rpm : 300

Tolerance mm Rated speed rpm	: 6.60 : ← 0.10 : 355
TORQUE CONTROL Rated speed rom rack travel mm Tolerance mm	: 1300 : 13.45 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.45 : ← 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 13.50 : + 0.05
Rated speed rpm Pressure hPa	: 500 : -
MEASUREMENT	
Rated speed rom	: 500
Pressure hPa rack travel mm Tolerance mm	: 270 : 0.80 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 510 : 2.40 : + 0.10
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 210
Check speed 1/min Check	: > 80
speed 1/min	: < 230
FUEL DELIVERY CHA	RACTERISTICS

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 300
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 6.60 : + 0.10 : 13.0 : + 2.0 : + 4.5 : 5.5 : 9.0

End of test specification sheet

Aneroid pressure

hPa : -Rated speed rpm : 500

CO5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.01.98 Edition : ISO 4113 Test oil

Combination No. : F 000 409 888

Injection pump

Pump designation : PES5P120A

EP type number : 0

Governor

Governer design. : RQV300...950

Governer no. : 0

Cust. part No. :

Customer—spec. information

Customer : MBB

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm: 13.55

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 271.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

: + 4.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 9.0

CO6

+	
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 6.40	Rated speed rpm : 950
Tolerance mm : + 0.10 +	Aneroid pressure
Del. quantity + cm3/1000 strokes : 22.5 +	hPa : 1500 Del. quantity
Tolerance	cm3/1000 strokes : 271.0
cm3/1000 strokes : + 3.0 +	Tolerance
Check tolerance + 6.0 +	cm3/1000 strokes : + 1.0
cm3/1000s. : + 6.0 + 5preed	Check tolerance cm3/1000s. : +- 4.0
Tolerance	Spreed
cm3/1000 strokes : 8.0	Tolerance
Check tolerance + cm3/1000S. : 12.0 +	cm3/1000 strokes : 5.0 Check tolerance
12.0	cm3/1000s. : 9.0
(5)	
(B) SETTING OF INJECTION PUMP +	
WITH GOTEWON	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
Production and the second seco	position degree : 121.0
Rated speed rpm : 700 + guide sceeve +	tolerance degree : +- 6.0
travel mm : 5.45	RATED SPEED
Tolerance mm : +- 0.25	rack travel mm : 12.55
Rated speed rom : 1050	Rated speed rpm : 1040 Tolerance 1/min : +- 5
Rated speed rom : 1050 + guide sleeve +	Toterance Mann . +- 3
travel mm : 7.80	rack travel mm : 4.00
Tolerance mm : + 0.10 +	Rated speed rpm : 1145
Rated speed rpm : 300	Tolerance 1/min : +- 15
guide steeve	rack travel mm : 0.50
travel mm : 0.75	Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1250
Rated speed rpm : 500	
guide sleeve	
travel mm : 3.55 Tolerance mm : + 0.25	LOW IDLE
Toterance mail . 7 - 0.25	LOW IDEC
Rated speed rpm : 1165	
guide sleeve + travel mm : 9.45 +	control lever position degree : 79.0
travel mm : 9.45 Tolerance mm : + 0.25	tolerance degree : + 6.0
1	•
CUIDE OFFICE POSITION	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	Rated speed rpm : 100
control lever	CRT mm min. :> 10.00
position degree : -1	Tarkina
Rated speed rpm : 1120	Testing:
Rack travel in am: 16.50	Rated speed rpm : 300
Tolerance mm : +- 1.30 +	rack travel mm : 6.40

Tolerance am	: + 0.10	†		
Rated speed rpm	: 325	‡	FUEL DELIVERY CHA	RACTERISTICS
TORQUE CONTROL		+	Aneroid pressure	· · · · · · · · · · · · · · · · · · ·
Rated speed rpm	: 950_	 	hPa	: 1500
rack travel mm	: 13.55	1	Rated speed rpm	
Tolerance mm	: + 0.05	1	Del. quantity	
TOTE WINCE MED	0.05	1	cm3/1000 strokes	• 302.0
Rated speed rpm	. 550	Ī	Tolerance	. 502.0
rack travel mm	: 13.95	\mathbf{I}	cm3/1000 strokes	20
Talk travet mm	. (3.75	T		. +- 2.0
Tolerance mm	: ← 0.05	†	Check tolerance	
.	750		cm3/1000s.	: ← 5.0
Rated speed rpm	: 750	•	Spreed	
rack travel mm	: 13.95		Tolerance	
Tolerance mm	: +- 0.05		cm3/1000 strokes	: 8.0
			Check tolerance	
Rated speed rpm	: 850	+	cm3/1000s.	: 12.0
rack travel mm	: 13.90	+		
Tolerance mm		į.		
. 0 (6) 0. 100 1		1	Aneroid pressure	
			hPa	: 1500
ANEROTO / AL TITLINE			Rated speed rpm	
ANEROID/ALTITUDE		T	nateu speeu i pin	: 750 : 13.95
COMPENSATOR TEST		T	rack travel mm	
			Tolerance mm	: +- 0.05
		†	Del quantity	
SETTING			cm3/1000 strokes	: 294.0
			Tolerance	
Rated speed rpm	: 5 00	+	cm3/1000 strokes	: ← 2.0
Pressure hPa	: 1500	+	Check tolerance	
rack travel mm		1	cm3/1000S.	: +- 5.0
Tolerance mm	: + 0.05		Spreed	
TOCCIONICC IMM			Tolerance	
Dated speed roa	: 500		cm3/1000 strokes	: 8.0
Rated speed rpm	. 500		Check tolerance	. 0.0
Pressure hPa	•		cm3/1000s.	: 12.0
MEASUREMENT		Ŧ	cm5/10005.	: 12.0
Rated speed rpm	: 500	‡	Aneroid pressure	
			hPa	: 1500
Pressure hPa	: 500	+	Rated speed rpm	: 850
rack travel mm	: 1.10		Del. quantity	
Tolerance mm	: ← 0.15		cm3/1000 strokes	: 286.0
		•	Tolerance	
Pressure hPa	: 900		cm3/1000 strokes	: +- 2.0
rack travel mm	: 2.65		Check tolerance	
Tolerance mm	: + 0.10		cm3/1000s.	: +- 5.0
(Office ince inth	0.10	•	Spreed	
Na _ a			Tolerance	. 0 0
Start interlock			cm3/1000 strokes	: 8.0
_			Check tolerance	. 40.0
Rated speed rpm -	: > 100	†	cm3/1000s.	: 12.0
Rated speed rpm	: < 210	†		
Check		1	Aneroid pressure	
speed 1/min	: > 80		hPa	: -
Check	,	1	Rated speed rpm	: 500
speed 1/min	: < 230		Del. quantity	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
SPECO MINIT	230		cm3/1000 strokes	: 143.0
		Τ '	CHO/ TOOU STRUKES	. 145.0

Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +-	1.0 4.0
Tolerance cm3/1000 strokes Check tolerance	:	5.0
cm3/1000s.	:	9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 260.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 300 6.40 Rack travel in mm : Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s.: +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 18.06.97

Test oil

: ISO 4113

Combination No. : 0 400 863 020

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...1250A5C858L

Governer no.

: 0 420 232 621

Cust. part No. : 0423 1592 KY

Customer-spec. information

Customer : KHD-DMI

Motor

: F3L912/913 NEU

Power KW

: 40.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance *C

: + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

: 173.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Tolerance mm : 4- 0.00

Check

: + 0.10tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 2

: 0-120-240 Phasing

Tolerance : **←** 0.50

Check

tolerance 'NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: + 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	Check tolerance - cm3/1000s. : 8.0
	CONTROL LEVER
Rated speed rpm : 325	- control lever - position degree : 107.0 - tolerance degree :
Rack travel in mm: 8.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 11.5 Tolerance cm3/1000 strokes: + 2.0	RATED SPEED rack travel mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1530
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1380 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 74.0 tolerance degree : +- 4.0
Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.25	- Rated speed rpm : 325 - rack travel mm : 8.00 - Tolerance mm : +- 0.10 -
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 100 -
Rated speed rpm : 1250	- CRT mm min. : > 19.50
Aneroid pressure hPa : -	- Testing: -
Del. quantity cm3/1000 strokes : 76.0 Tolerance	Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0	rack travel mm : 2.00 Rated speed rpm : 510 Tolerance 1/min : +- 30
Tolerance cm3/1000 strokes : 3.5	

TORQUE CONTROL

1250 Rated speed rpm : rack travel am : 11.35 : ← 0.05 Tolerance no

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.25 : **←** 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.50 Tolerance max : + 0.10

Del. quantity cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000S.4.5

Spreed

Tolerance

5.5 cm3/1000 strokes :

Check tolerance

9.0 cm3/1000S.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.06.97 : ISO 4113

Combination No. : 0 400 863 021

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number

: 0 410 893 996

Governor

Governer design. : RSV325...900A1C859L

Governer no.

: 0 420 232 622

Cust. part No.

: 0423 1593 KY

Customer-spec. information

: KHD-DMI Customer

: F3L912/913_NEU Motor

Power KW : 40.5

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.00 : + 0.05Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 2

: 0-120-240 Phasing Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

850 Rated speed rpm :

Rack travel in mm: 11.80 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes :

80.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.: +-3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 96.0 tolerance degree : + 4.0
Rack travel in mm: 7.90 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 11.5	RATED SPEED rack travel mm : 10.80 Rated speed rpm : 895
Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 940
cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 5.5	Rated speed rpm : 940 Tolerance 1/min : + 10 rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1110
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 960 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 75.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.25	Rated speed rpm : 325 rack travel mm : 7.40 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100 CRT mm min. : > 19.50
Rated speed rpm : 850 Aneroid pressure hPa : -	Testing:
Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 325 rack travel mm : 7.90 Tolerance mm : + 0.10
Check tolerance cm3/1000s. : + 3.0 + Spreed	rack travel mm : 2.00 Rated speed rpm : 440 Tolerance 1/min : +- 30
Tolerance + cm3/1000 strokes : 3.5 +	

TORQUE CONTROL

850 Rated speed rpm : rack travel am : 11.80 Tolerance mm : **←** 0.05

500 Rated speed rpm

STARTING FUEL DELIVERY

100 Rated speed rpm 20.25 rack travel mm : : **←** 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 7.90 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s.: +- 4.5

Spreed

Tolerance

5.5 cm3/1000 strokes :

Check tolerance

9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.97 Test oil : ISO 4113

Combination No. : 0 400 863 024

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...1250A5C917L

Governer no. : 0 420 232 639

Cust. part No. : 0423 2328 KY

Customer-spec. information Customer : KHD-DMI Motor : F3L912 Power KW : 44.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : ← 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240 Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 107.0 tolerance degree : + 4.0
Rack travel in mm: 8.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 11.5 Tolerance cm3/1000 strokes: + 2.0	RATED SPEED rack travel mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : +- 5
Check tolerance cm3/1000S. : + 4.5 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.9	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1530
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1380 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
	+ LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 74.0 tolerance degree : +- 4.0
position degree : FREE	control lever position degree : 74.0
position degree : FREE Rated speed rpm : 800 Reck travel in mm : 0.50	control lever position degree : 74.0 tolerance degree : +- 4.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 74.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : -	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0	control lever position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 325 rack travel mm : 325

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : **←** 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 17.00 : **←** 0.75 Tolerance ma Del. quantity cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50 : +- 0.10 Tolerance mm Del. quantity

11.5 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

4.5 cm3/1000s. Spreed

Tolerance

5.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 9.9

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.06.97 : ISO 4113

Combination No. : 0 400 864 099

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5C858L

Governer no. : 0 420 232 621

Cust. part No. : 0423 1595 KY

Customer-spec. information

Customer : KHD-DMI

: F4L912/913 NEU Moter

Power KW : 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm Tolerance mm : 3.00 : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: -- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	- Check tolerance - cm3/1000s. : 8.0
cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 107.0 tolerance degree : +- 4.0
Rack travel in mm: 8.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 11.5 Tolerance cm3/1000 strokes: + 2.0 Check tolerance	RATED SPEED rack travel mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : + 5 rack travel mm : 4.00
cm3/1000s. : +- 4.5 Spreed Tolerance	Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1530
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1380 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 74.0 tolerance degree : + 4.0
position degree : FREE +	position degree : 74.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 74.0 tolerance degree : + 4.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0	position degree : 74.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 325 rack travel mm : 325

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : + 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50
Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.03.97 : ISO 4113

Combination No. : 0 400 864 102

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5C861L

Governer no.

: 0 420 232 624

Cust. part No. : 0423 1789 KY

Customer-spec. information

Customer

: KHD-DMI

Motor

: F4L912/913 NEU

Power KW

: 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

: 173.5

Tolerance bar

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter : 2.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

3.00 Prestroke mm : + 0.05Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	
	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 102.0 tolerance degree : +- 4.0
Rack travel in mm: 8.50 + Tolerance mm: : + 0.10 + Del. quantity	RATED SPEED rack travel mm : 10.35
cm3/1000 strokes : 11.5	Rated speed rpm : 1295 Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 Check tolerance	· rack travel mm : 4.00
cm3/1000s. : + 4.5 Spreed Tolerance	Rated speed rpm : 1339 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1510
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1360 Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	LOW IDLE
T	
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 69.0 tolerance degree : +- 4.0
position degree : FREE	position degree : 69.0
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : \(\sim 0.20 \) governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : \(\psi \) 0.20 governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : \(\bigcup 0.20 \) governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10
position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	position degree : 69.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 473

Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : ← 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : \leftarrow 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.50 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : \leftarrow 4.5

Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25.06.97 Edition Test oil : ISO 4113

Combination No. : 0 400 866 222

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5c950L

Governer no. : 0 420 232 641

Cust. part No. : 0423 1601 KY

Customer-spec. information Customer : KHD-DMI

: F6L912/913_NEU Motor

Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

3.00 Prestroke mm : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance 'NW : + - 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : +-3.0

Spreed	† Tolerance
•	cm3/1000 strokes : 3.5
Tolerance	- Check tolerance
cm3/1000 strokes : 3.5	- cm3/1000s. : 8.0
	-
Check tolerance	+
cm3/1000s. : 8.0	
	CONTROL LEVER
	+
4	control lever
Rated speed rpm : 325	position degree : 107.0
· · · · · · · · · · · · · · · · · · ·	tolerance degree : +- 4.0
Rack travel in mm: 8.50	
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	rack travel mm : 10.35
cm3/1000 strokes : 11.5	Rated speed rpm : 1295
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 -	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1355
Spreed	Tolerance 1/min : + 15
Tolerance	t
cm3/1000 strokes : 5.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : 9.0 -	Rated speed rpm : 1550
1	rack travel man : 4.00
(B) SETTING OF INJECTION PUMP	
· · · · · · · · · · · · · · · · · · ·	Rated speed rpm : 1400 Tolerance 1/min : +- 15
₩ITH GOVERNOR	i loterance i/min : +- 15
7	-
GITTLE SLEEVE POSITION	
GUIDE SLEEVE POSITION	I ON TOLE
GUIDE SLEEVE POSITION	LOW IDLE
 	LOW IDLE
control lever	
control lever - position degree : FREE -	- control lever
control lever	- control lever - position degree : 73.0
control lever	- control lever - position degree : 73.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 73.0 tolerance degree : +- 4.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	- control lever - position degree : 73.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 73.0 tolerance degree : +- 4.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 73.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : -	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 325 rack travel mm : 8.50
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 595
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 73.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.00 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 rack travel mm : 2.00

TORQUE CONTROL

: 1250 Rated speed rpm 11.35 rack travel mm : **←** 0.05 Tolerance mm

Rated speed rpm 500

STARTING FUEL DELIVERY

Rated speed rpm 100 20.25 rack travel mm : + 0.75Tolerance mm

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

: +- 10.0 cm3/1000s.

LOW IDLE

Rated speed rpm 325

8.50 Rack travel in mm : : +- 0.10 Tolerance mm

Del. quantity

11.5 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. : **←** 4.5

Spreed Tolerance

5.5 cm3/1000 strokes :

Check tolerance

9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.01.98 : ISO 4113

Combination No. : 0 400 866 225

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number

: 0 410 896 884

Governor

Governer design. : RSV325...1250A5C967L

Governer no.

: 0 420 232 647

Cust. part No. : 0423 1813 KY

Customer-spec. information

Customer

: KHD-DMI

Motor

: F6L912/913 NEU

Power KW

: 89.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm Tolerance mm

3.00 : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes :

76.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

Spreed	† Tolerance
	+ cm3/1000 strokes : 3.5
Tolerance	+ Check tolerance
cm3/1000 strokes : 3.5	+ cm3/1000s. : 8.0
	+
Check tolerance	+
cm3/1000s. : 8.0	
	CONTROL LEVER
	1
	+ control lever
Rated speed rpm : 325	position degree : 102.0
nated speed (part : SES	+ tolerance degree : + 4.0
Rack travel in mm: 8.50	T cotte and degree . 4.0
Tolerance mm : + 0.10	T RATED SPEED
Del. quantity	rack travel mm : 10.35
cm3/1000 strokes : 11.5	Rated speed rpm : 1295
Tolerance	Tolerance 1/min : + 5
cm3/100C strokes : +- 2.0	+
Check tolerance	+ rack travel mm : 4.00
$cm3/1000s.$: \leftarrow 4.5	+ Rated speed rpm : 1340
Spreed	+ Tolerance 1/min : + 15
Tolerance	+
cm3/1000 strokes : 5.5	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 9.0	+ Tolerance mm : + 0.55 + Rated speed rpm : 1540
CHD/ 10003 /.0	T water speed i piii . 1340
	Track travel mm : 4.00
(D) SETTING OF THESETION DINE	T lack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1385
WITH GOVERNOR	+ Tolerance 1/min : + 15
	†
	+
	+
GUIDE SLEEVE POSITION	OU THE
	+ LOW IDLE
A - A - A - A - A - A - A - A - A -	†
control lever	†
position degree : FREE	+ control lever
Rated speed rpm : 800	+ position degree : 68.0
	+ tolerance degree : +- 4.0
Rack travel in mm: 0.50	+
Tolerance mm : + 0.20	Setting point w/out bumper spring
	+
governor spring	+ Rated speed rpm : 325
pre-tension	
click setting x : 3.00	rack travel mm : 8.00 Tolerance mm : + 0.10
celor secting x : 5.00	
	Rated speed rpm : 100
THE LOAD DELIVERY AT FULL LOAD CTOD	T rated speed (pill) . 100
FULL LOAD DELIVERY AT FULL LOAD STOP	007 10 50
4050	+ CRT mm min. : > 19.50
Rated speed rpm : 1250	†
Aneroid pressure	† Testing:
hPa : -	†
Del. quantity	+ Rated speed rpm : 325
cm3/1000 strokes : 76.0	+ rack travel mm : 8.50
Tolerance	+ rack travel mm : 8.50 + Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0	4
Check tolerance	rack travel mm : 2.00
cm3/1000s. : +- 3.0	Rated speed rpm : 570
	Tolerance 1/min : +- 30
Spreed	T TOLET ATTICLE THE THE TITLE TO THE TITLE THE
	Ť

TORQUE CONTROL

1250 Rated speed rpm 11.35 rack travel mm : : + 0.05 Tolerance nm

Rated speed rpm 500

STARTING FUEL DELIVERY

100 Rated speed rpm 20.25 rack travel mm : **←** 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : **←** 10.0

LOW IDLE

Rated speed rpm : 325

8.50 Rack travel in mm : : + 0.10 Tolerance mm

Del. quantity cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 4.5

Tolerance

Spreed

5.5 cm3/1000 strokes :

Check tolerance

9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 01.07.97 Edition : ISO 4113 Test oil

Combination No. : 0 400 866 230

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C874L

Governer no. : 0 420 232 629

Cust. part No. : 0423 2054 KY

Customer-spec. information Customer : KHD-DMI : BF6L 913 Motor Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance *0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter: 6.0

x inside diameter: 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.00 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

: **←** 0.75 tolerance *NW

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.20 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

; +-3.0

Spreed	+ Tolerance
•	- cm3/1000 strokes : 3.5
Tolerance	+ Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 8.0
Check tolerance	†
cm3/1000s. : 8.0	I
CMS/ 10000: . 0.0	CONTROL LEVER
	-
	control lever
Rated speed rpm : 325	position degree : 104.0
Darle Annual Source 8 20	tolerance degree : + 4.0
Rack travel in mm : 8.20 Tolerance mm : + 0.10	T RATED SPEED
Del. quantity	rack travel mm : 12.20
cm3/1000 strokes : 11.5	Rated speed rpm : 1295
Tolerance	Tolerance 1/min : + 5
cm2/1000 strokes : - 2.0	
Check tolerance	rack travel mm : 4.00
cm2/1 000s 。 : +- 4.5	Rated speed rpm : 1355
Spreed	† Tole; ≈nce 1/min : + 15
Tolerance	†
cm3/1000 strokes : 5.5	rack trave: 70% : 0.85
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- C.55 Rated speed rpm : 1550
cm3/1000s. : 9.0	T Rated speed rpin : 1550
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1400
WITH GOVERNOR	Tolerance 1/min : + 15
	
	1
	+
CLITNE SLEEVE POSITION	
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION control lever	
control lever position degree : FREE	control lever
control lever	control lever position degree : 70.0
control lever position degree : FREE Rated speed rpm : 800	control lever
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 70.0 tolerance degree : +- 4.0
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 70.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 70.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 70.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing:
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10 rack travel mm : 2.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 560
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 93.0 Tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 560
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 560 Tolerance 1/min : + 30
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 560 Tolerance 1/min : + 30 TORQUE CONTROL
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 560 Tolerance 1/min : + 30

Tolerance mm : **←** 0.05 Rated speed rpm : 500 rack travel mm 13.25 : + 0.10Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 500 Rated speed rpm : Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s. 4.0 STARTING FUEL DELIVERY Rated speed rpm 100 20.50 rack travel mm : : + 1.00Tolerance mm Del. quantity cm3/1000 strokes : 124.0 Tolerance cm3/1000 strokes : \leftarrow 7.5 Check tolerance cm3/1000s. : +- 10.0 LOW IDLE Rated speed rpm : 325 8.20 Rack travel in mm : : **←** 0.10 Tolerance nem Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance

End of test specification sheet

9.0

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.01.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 033

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A0C911R

Governer no. : F 002 A20 223

Cust. part No. : 3283692

Customer—spec. information Customer : CUMMINS

Motor : 687-155 PS/2100

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : + 0.10

Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.20

Tolerance mm : + 0.05	+ Del. quantity
	+ cm3/1000 strokes : 110.0
Del. quantity	Tolerance
cm3/1000 strokes : 110.0	+ cm3/1000 strokes : + 1.0
CHEO/ 1000 SEFORES . 110.0	Check tolerance
Tolonopo	
Tolerance	
cm3/1000 strokes : + 1.0	+ Spreed
	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 4.0
cm3/1000s. : $+$ 3.0	+ Check tolerance
	+ cm3/1000s. : 6.5
Spreed	
opi cca	1
Tolerance	
cm3/1000 strokes : 4.0	CONTROL LEVER
CMS/1000 Strokes: 4.0	T CONTROL LEVER
	†
Check tolerance	+ control lever
cm3/1000s. : 6.5	+ position degree : 105.0
	+ tolerance degree : + 4.0
	+
	A RATED SPEED
Rated speed rpm : 475	rack travel mm : 12.20
TIS	Rated speed rpm : 1095
Rack travel in mm : 5.80	
	+ Tolerance 1/min : +- 5
Tolerance mm : +- 0.10	†
Del. quantity	+ rack travel mm : 4.00
cm3/1000 strokes : 20.8	+ Rated speed rpm : 1185
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0	1
Check tolerance	rack travel mm : 0.85
cm3/1000s. : +- 4.5	Tolerance mm : +- 0.55
Spreed	+ Rated speed rpm : 1300
Tolerance	†
cm3/1000 strokes : 6.0	+ rack travel mm : 4.00
Check tolerance	+ Tolerance mm : $+$ 0.05
cm3/1000s. : 8.0	+ Rated speed rpm : 1185
	+ Tolerance 1/min : + 15
	1 Total differ Trimiti
(B) SETTING OF INJECTION PUMP	T
	T
WITH GOVERNOR	†
	100 70 6
	+ LOW IDLE
	†
GUIDE SLEEVE POSITION	†
	+ control lever
Rated speed rpm : 800	position degree : 83.0
•	+ tolerance degree : +- 4.0
Rack travel in mm : 0.50	1
Tolerance mm : + 0.20	Setting point w/out bumper spring
TO CET CALLE THAT	1 beceiving pointe wroat bamper spring
	Pated around nam . /75
governor spring	Rated speed rpm : 475
pre-tension (22)	rack travel mm : 5.30
click setting x : 4.00	+ Tolerance mm : + 0.10
	+
	+ Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	+
	+ CRT mm min. : > 19.00
Rated speed rpm : 1050	1
Aneroid pressure	+ Testing:
1	1
hPa : 1200	T

Rated speed rpm	: 475
rack travel mm Tolerance mm	: 5.80 : +- 0.10
rack travel mm	: 2.00
Rated speed rpm Tolerance 1/min	
Tolerance 1/min	: ← 30
TORQUE CONTROL	······································
Rated speed rpm	: 1050
rack travel mm Tolerance mm	: 13.20 : + 0.05
Rated speed rpm	: 750
AMEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1200
Rated speed rpm	: 500
Pressure hPa rack travel mm	: - : 11.10
Tolerance mm	: 11.10 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa	: 700
rack travel mm	: 12.40
Tolerance mm	: 0.20
Pressure hPa	: 550
rack travel mm Tolerance mm	: 11.75 : +- 0.20
FUEL DELIVERY CHA	RACTERISTICS
	· · · · · · · · · · · · · · · · · · ·
Aneroid pressure hPa	: 1200
Rated speed rpm	: 750
Del. quantity cm3/1000 strokes	: 116.0
Tolerance	
cm3/1000 strokes Check tolerance	: ← 2.0
cm3/1000s.	: ← 4.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : : +-	500 87.0 1.0 3.0	
STARTING FUEL DELI	VERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : + : : +	100 20.25 0.75 121.5 10.0 15.0	
LOW IDLE			
Rated speed rpm	:	475	
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + + + : : :	5.80 0.10 20.8 2.0 4.5 6.0 8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.01.98 Edition : ISO 4113 Test oil

Combination No. : 0 400 656 152

Injection pump

Pump designation : PE6A90D412RS2507 EP type number : 0 410 696 178

Governor

Governer design. : RQV300...1400AB970DL

6overner no. : 0 420 214 222

Cust. part No. :

Customer-spec. information Customer : SNF : WD61039 Motor Power KW : 97.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temo. °C : 40 : - 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length man : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : +- 0.05 Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 : + 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance $^{\bullet}NW$: + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 8.55 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s.

: +-2.5

Spreed

Tolerance +	
cm3/1000 strokes : 3.0	CONTROL LEVER
Check tolerance	•
cm3/1000s. : 5.0	- control lever
	position degree : 106.0
1	tolerance degree : +- 4.0
Ratted speed rpm : 300	- RATED SPEED
The second secon	rack travel mm : 7.50
Rack travel in mm : 6.00	- Rated speed rpm : 1445
Tolerance mm : + 0.10	Tolerance 1/min : + 5
Del. quantity	-
cm3/1000 strokes : 11.0	- rack travel mm : 4.00
Tolerance	- Rated speed rpm : 1495
cm3/1000 strokes : + 3.0	Tolerance 1/min : + 15
Check tolerance	
cm3/1000s. : + 5.0	- rack travel mm : 0.50
Spreed	- Tolerance mm : +- 0.50 - Rated speed rpm : 1600
Tolerance - cm3/1000 strokes : 2.5	- Rated speed rpm : 1600
Check tolerance	-
cm3/1000s. : 4.5	
110001	
4	- LOW IDLE
(B) SETTING OF INJECTION PUMP	•
WITH GOVERNOR	-
+	- control lever
†	- position degree : 77.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Cathlas walsh/aut bumman ammins
]	- Setting point w/out bumper spring
control lever	- Rated speed rpm : 200
position degree : -1	•
Rated speed rpm : 1565	- CRT mana manin. :> 8.00
<u> </u>	
Rack travel in mm: 7.50	- Testing:
Tolerance mm : + 1.30	Detect around man - 700
	- Rated speed rpm : 300
FULL LOAD DELIVERY AT FULL LOAD STOP	- rack travel mm : 6.00 - Tolerance mm : + 0.10
TOLL LOAD DELIVERY AT FOLL LOAD STOP	· TOTEL CHILD IN THE U. (U
Rated speed rpm : 1400	- Rated speed rpm : 400
Aneroid pressure	•
hPa : -	
Del. quantity	- TORQUE CONTROL
cm3/1000 strokes : 56.0	- Rated speed rpm : 1400
Tolerance	- rack travel mm : 8.55
cm3/1000 strokes : + 0.5	Tolerance mm : + 0.05
Check tolerance cm3/1000s. : + 2.5	- - Rated speed rpm : 500
cm3/1000s. : + 2.5 - Spreed	- rack travel mm : 9.65
Tolerance	- rack travel mm : 9.65 - Tolerance mm : +- 0.05
cm3/1000 strokes : 3.0	
Check tolerance	- Rated speed rpm : 905
cm3/1000s. : 5.0	- rack travel mm : 9.30
1	rack travel mm : 9.30 Tolerance mm : + 0.10
+	•
	D-4 10/0
1	- Rated speed rpm : 1060

rack travel mm Tolerance mm	: : +-	8.80 0.10	
Start interlock			
Rated speed rom	: >	100	
Rated speed rpm Rated speed rpm	: <	220	
Check			
speed 1/min Check	: >	80	
speed 1/min	: <	240	
FUEL DELIVERY CH	ARACTER	ISTICS	
Aneroid pressure			-

Alterora pressure		
hPa	:	-
Rated speed rpm	:	900
Del. quantity		
cm3/1000 strokes	:	53. 5
Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance		
cm3/1000s.	: +-	3.5
		

Aneroid pressure	•	_
Rated speed rpm	:	500
rack travel mm	:	9.30
Tolerance mm	: +-	0.10
Del. quantity		
cm3/1000 strokes	:	45.5
Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance	- 1	35
cm3/1000s.	: +-	3.5

074077410			THEON
STARTING	F()F(1)1-1	IVERY

Rated speed rpm rack travel mm	: 100 : 15.50
Tolerance mm	: ← 0.20
Del. quantity cm3/1000 strokes Tolerance	: 115.0
cm3/1000 strokes	: +- 5.0
Check tolerance cm3/1000s.	: ← 8.0

Rated speed rpm	:		300
Rack travel in mm Tolerance mm	:	+-	6.00 0.10
Del. quantity cm3/1000 strokes Tolerance	:		11.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	5.0
Tolerance cm3/1000 strokes	:		2.5
Check tolerance cm3/1000s.	:		4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.01.98 Edition : ISO 4113 Test oil

Combination No. : 0 400 876 375

Injection pump

Pump designation : PES6A95D32ORS2693 EP type number : 0 410 896 914

6overnor

Governer design. : RSV300...1300A0C2251

Governer no. : 0 420 233 272

Cust. part No. :

Customer-spec. information

Customer : DAF

: NT 116 Motor Power KW

: 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 4:) : + 2.0 Tolerance *C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter: 1.5 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-1.0

Prestroke mm 2.05 Tolerance mm : + - 0.05

Check

tolerance mm

Rack travel in mm: 9.00 : ← 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Beginning of delivery differende

and maximum rack

travel 9.00 Tolerance mm : +- 0.50 Difference * CS : 3.00

BASIC SETTING

Rated speed rpm : 1290

10.35 Rack travel in mm: Tolerance nm : **←** 0.05

Del. quantity

cm3/1000 strokes : 62.0

Tolerance cm3/1000 strokes	: ← 0.5 ‡	Tolerance cm3/1000 strokes : +- 0.5 Check tolerance
Check tolerance cm3/1000s.	: + 2.5	cm3/1000s. : +- 2.5 Spreed Tolerance
Spreed		cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes	: 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s.	: 6.0	CONTROL LEVER
Rated speed rpm	: 300	control lever position degree : 108.0 tolerance degree : +- 4.0
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: + 0.10	RATED SPEED rack travel mm : 9.30 Rated speed rpm : 1345 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: ← 2.0 : ← 4.5	rack travel mm : 4.00 Rated speed rpm : 1405 Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes Check tolerance	+	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1575
cm3/1000s. (B) SETTING OF INWITH GOVERNOR	: 5.5 JECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1425 Tolerance 1/min : + 15
GUIDE SLEEVE POSI	TION	LOW IDLE
control lever position degree Rated speed rpm		control lever position degree : 75.0 tolerance degree : +- 4.0
Rack travel in mm Tolerance mm		Setting point w/out bumper spring
governor spring pre-tension	. 5.50	Rated speed rpm : 300 rack travel mm : 6.40 Tolerance mm : +- 0.10
click setting x	.).30 +	Testing:
FULL LOAD DELIVER'	Y AT FULL LOAD STOP	Rated speed rpm : 300 rack travel mm : 5.90 Tolerance mm : + 0.10
Aneroid pressure hPa Del. quantity cm3/1000 strokes	: - ‡	rack travel mm : 2.00 Rated speed rpm : 590 Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1290 rack travel mm : 10.35 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 11.15 Tolerance mm : + 0.05

Rated speed rpm : 1050 rack travel mm : 10.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rom : 1290

Del. quantity cm3/1000 strokes : 69.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : + 0.10
Del. quantity

cm3/1000 strokes : 8.0

Tolerance cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. : + 4.5 Spreed

Tolerance

cm3/1000 strokes : 3.5 Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.01.98 Test oil : ISO 4113

Combination No. : 0 402 736 842AA

Injection pump

Pump designation : PES6P120A120RS7281 EP type number : 0 412 726 890

Governor

Governer design. : RQV400...1250PA1060

: -1K

Governer no. : 0 421 815 344

Cust. part No. : 3933296

Customer—spec. information Customer : CDC Motor : 6BTA-A Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

tolerance mm: $\leftarrow 0.10$

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 6.00 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.35

Tolerance mm	: ← 0.05 +	guide sleeve
	<u> </u>	travel mm : 3.04
Del. quantity	+	Tolerance mm : + 0.25
cm3/1000 strokes	: 153.5	
	1	Rated speed rpm : 1740
Tolerance		guide sleeve
cm3/1000 strokes	: + 1.0 I	travel mm : 11.50
CHO/1000 Strokes	. — 1.0	
	 †	Tolerance mm : + 0.50
Check tolerance	†	
cm3/1000s.	: +- 4.0 +	
	 	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	+	
·	1	Rated speed rpm : 1250
Tolerance	1	Aneroid pressure
cm3/1000 strokes	: 8.0	hPa : 800
CHO/ TOOD STITUKES	· • • • • • • • • • • • • • • • • • • •	
Charle As Lawrence		Del. quantity
Check tolerance	t	cm3/1000 strokes : 153.5
cm3/1000S.	: 12.0 +	Tolerance
	<u> </u>	cm3/1000 strokes : → 1.0
	1	Check tolerance
	1	cm3/1000s. : +- 4.0
Rated speed rpm	: 420	Spreed
nated speed this	· ~~~	Tolerance
Omila de la estada		
Rack travel in mm		cm3/1000 strokes : 8.0
Tolerance mm	: +- 0.20 	Check tolerance
Del. quantity	+	cm3/1000s. : 12.0
cm3/1000 strokes	: 15.5	
Tolerance	1	
cm3/1000 strokes	· + 30 1	
	7	CONTROL LEVED
Check tolerance	T	CONTROL LEVER
cm3/1000s.	: +- 5.0 +	
Spreed	+	control lever
Tolerance	+	position degree : 120.0
cm3/1000 strokes	: 4.0	tolerance degree : +- 4.0
Check tolerance	1	
cm3/1000s.	: 8.0	RATED SPEED
CIRD/ 10003.	. 0.0	rack travel mm : 12.30
	T	
	†	Rated speed rpm : 1325
(B) SETTING OF IN	JECTION PUMP +	Tolerance 1/min : + 15
WITH GOVERNOR	+	
	+	rack travel mm : 4.00
	}	Rated speed rpm : 1475
GUIDE SLEEVE TRAV	FI 1	Tolerance 1/min : +- 5
SOLLE OFFERE LIVA	<u> </u>	
Dated aroad no-	. 1313	rack travel mm : 0.50
Rated speed rpm	. 1212	Tolerance mm : + 0.50
<i>g</i> uide sleeve	†	Tolerance mm : ← 0.50 Rated speed rpm : 1550
travel mm	: 7.14	катеd speed rpm : 1550
Tolerance mm	: ← 0.15 +	
	+	
Rated speed rpm	: 400	
guide sleeve	1	
travel ma	: 0.91	LOW IDLE
		COM INCL
Tolerance mm	: + 0.20 +	
	<u> </u>	
Rated speed rpm	: 936 +	control lever
guide sleeve	1	position degree : 73.0
travel mm	: 4.64	tolerance degree : +- 4.0
Tolerance mm	: + 0.25	
TOTAL OFFICE WILL	T	Control lever difference
One and the second second	· 4/0	
Rated speed rpm	: 640 +	Grad : 47.0

tolerance degree : +- 6.0	†
Setting point w/out bumper spring	Start interlock
Rated speed rpm : 400	Rated speed rpm : > 100 Rated speed rpm : < 280
CRT mm min. :> 5.80	+ Check
Testing:	speed 1/min :> 80 + Check
Rated speed rpm : 420 rack travel mm : 6.00 Tolerance mm : +- 0.20	speed 1/min : < 290
	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 425	ļ
TODOUE CONTROL	+ Aneroid pressure + hPa : 800
TORQUE CONTROL	+ Rated speed rpm : 800
Rated speed rpm : 1250 rack travel mma : 13.35	+ Del. quantity
Tolerance mm : + 0.05	- cm3/1000 strokes : 133.0
(Oterane into	Tolerance
Pated speed row . 800	+ cm3/1000 strokes : +- 3.0
rack travel ma : 12.00	Check tolerance
Rated speed rpm : 800 rack travel mm : 12.00 Tolerance mm : + 0.20	+ cm3/1000s. : + 6.0
Totel artic han	Spreed
Rated speed rom : 500	+ Tolerance
Rated speed rpm : 500 rack travel mma : 11.60	+ cm3/1000 strokes : 8.0
Tolerance mm : + 0.20	- Check tolerance
TO CO, CO TOWN	+ cm3/1000s. : 12.0
Rated speed rpm : 900	+
rack travel mm : 12.40	
Rated speed rpm : 900 rack travel mm : 12.40 Tolerance mm : +- 0.20	+ rack travel mm : 11.60
	rack travel mm : 11.60 Tolerance mm : + 0.20
ره شهرون المستحد والمستحد والمستحد والمستحدد المستحدد المستحدد المستحدد والمستحدد والمستحدد والمستحدد والمستحدد والمستحدد والم	†
ANEROID/ALTITUDE	+
COMPENSATOR TEST	+ Aneroid pressure
	+ hPa : -
	+ Rated speed rpm : 1250
SETTING	+ Del. quantity
4000	+ cm3/1000 strokes : 84.0
Rated speed rpm : 1250	+ Tolerance + cm3/1000 strokes : +- 2.0
Pressure hPa : 1200	+ Check tolerance
Rated speed rpm : 1250	+ cm3/1000s. : + 4.0
Pressure hPa : -	I (m)/10003 +- 4.0
rack travel mm : 9.15	1
Tolerance mm : + 0.20	
TOCCI CLICO ISSUIT	+ STARTING FUEL DELIVERY
MEASUREMENT	+
	+ Rated speed rpm : 100
Rated speed rpm : 1250	+ rack travel mm : 13.50
	+ Tolerance mm : + 0.50
Pressure hPa : 310	+ Del. quantity
rack travel mm : 12.30	+ cm3/1000 strokes : 155.0
Tolerance m : \leftarrow 0.30	+ Tolerance
	+ cm3/1000 strokes : + 20.0
Pressure hPa : 175	+ Check tolerance
rack travel mm : 10.20	+ cm3/1000s. : +- 25.0
Tolerance mm : + 0.20	†

LOW IDLE

Rated speed rpm	:	420
Rack travel in mm	-	6.00
Tolerance mm	: +	- 0.20
Del. quantity cm3/1000 strokes	:	15.5
Tolerance		_
cm3/1000 strokes	: +	- 3.0
Check tolerance cm3/1000s. Spreed	: +	- 5.0
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.01.98 Test oil : ISO 4113

Combination No. : 0 402 776 825

Injection pump

Pump designation : PES6P120A720RS7382 EP type number : 0 412 726 943

6overnor

Governer design. : RSV400...1100P0A547

: -7

Governer no. : 0 421 833 496

Cust. part No. : RE501786

Customer—spec. information Customer : DEERE

Motor : 6081 AF001 Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.80	†
Tolerance mm : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 198.0	Rated speed rpm : 1100 Aneroid pressure
	+ hPa : 1400
Tolerance cm3/1000 strokes : +- 1.0	+ Del. quantity + cm3/1000 strokes : 198.0
Check tolerance	+ Tolerance + cm3/1000 strokes : + 1.0
cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000s. : +- 4.0
Spreed	+ Spreed + Tolerance
Tolerance	- cm3/1000 strokes : 5.0
cm3/1000 strokes : 5.0	+ Check tolerance
	+ cm3/1000s. : 9.0
Check tolerance : 9.0	†
	CONTROL LEVER
Rated speed rpm : 400	f control lever
	position degree : 95.0
Rack travel in mm : 5.85	tolerance degree : + 4.0
Tolerance ma : + 0.10	†
Del. quantity cm3/1000 strokes : 28.5	+ RATED SPEED + rack travel mm : 10.80
Tolerance : 20.3	- Rated speed rpm : 1170
cm3/1000 strokes : +- 3.0	+ Tolerance 1/min : + 5
Check tolerance	+
$cm3/1000s$. : \leftarrow 5.0	† rack travel mm : 4.00
Spreed	+ Rated speed rpm : 1225
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : 8.0 Check tolerance	rack travel mm : 0.85
cm3/1000s. : 12.0	Tolerance mm : +- 0.55
	+ Rated speed rpm : 1300
	+
(B) SETTING OF INJECTION PUMP	rack travel mm : 4.00
WITH GOVERNOR	+ Rated speed rpm : 1230 + Tolerance 1/min : + 15
	Toterance Italian : + 15
CLIDE SI SELE DOSTITON	<u> </u>
GUIDE SLEEVE POSITION	1
	LOW IDLE
control lever	+
position degree : - 3	- †
Rated speed rpm : 800	+ control lever
Back tanval in man . 0.50	<pre>+ position degree : 72.0 + tolerance degree : +- 4.0</pre>
Rack travel in mm : 0.50 Tolerance mm : + 0.20	T LOTE WILL REGISE . T 4.0
	Setting point w/out bumper spring
governor spring pre-tension	Rated speed rpm : 400
click setting x : 3.25	rack travel mm : 5.35 Tolerance mm : + 0.10
	+ Tolerance mm : + 0.10

Rated speed rpm	: 100
CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mma Tolerance mma	: 400 : 5.85 : + 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.80 : + 0.05
Rated speed rpm rack travel mma Tolerence mma	: 800 : 12.40 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1400
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.75 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mma Tolerance mm	: 880 : 11.50 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 450 : 9.70 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes	

Check tolerance cm3/1000s.	: +- 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 93.0 : + 2.0 : + 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.50 : + 0.50 : 105.0 : + 20.0 : + 25.0
LOW IDLE	
Rated speed rpm	: 400
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 5.85 : + 0.10 : 28.5
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.01.98 Edition Test oil : ISO 4113

Combination No. : 0 403 466 181

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV500...1000MW0A409

Governer no. : 0 420 085 300

Cust. part No. : 3928288

Customer-spec. information Customer : CDC Motor : 6 CT Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance *C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : +-2.80 : + 0.05 Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 15.00 Difference * CS : 2.00

BASIC SETTING	
lated speed rpm	: 1000
Rack travel in mm Tolerance mm	: 11.75 : + 0.05
Del. quantity cm3/1000 strokes	: 136.5
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 7.5
Rated speed rpm Rack travel in mm Tolerance:mm	: 5.50
Tolerance mm	: 5.50 : + 0.10
Del. quantity cm3/1000 strokes Tolerance	: 21.5
cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s. Spread	: + 4.5
Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1 000 S.	: 5.5
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TION

FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa	Y AT FULL LOAD STOP
Aneroid pressure	
Aneroid pressure	: 1000
hPa	
Nat minutation	: 1200
Del. quantity cm3/1000 strokes	: 136.5
Tolerance	. 130.3
cm3/1000 strokes	: + 1.0
Check tolerance	/ 0
cm3/1000s. Spreed	: +- 4.0
Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 7.5
Cm5/ 10005.	. 7.5
CONTROL LEVER	
control lever	
position degree	: 100.0
tolerance degree	: +- 4.0
RATED SPEED	
rack travel mm	: 10.70
Rated speed rpm	: 1055
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1160
Tolerance 1/min	: +- 5
rack travel mm	: 1.00
Tolerance mm	: +- 0.70
Rated speed rpm	: 1250
mante democrati com	: 4.00
rack travel mm Rated speed rpm	: 4.00
Tolerance 1/min	: + 15
LOW IDLE	
control lever	
position degree	: 83.0
tolerance degree	: 4.0

Control lever difference Grad : 17.0

Rack travel in mm: 0.50 Tolerance mm: + 0.20

tolerance degree	: ← 6.0	†
Setting point w/o	out bumper spring	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 5.00 : ← 0.10	Aneroid pressure hPa : 1200 Rated speed rpm : 750
Rated speed rpm	: 100	Del. quantity + cm3/1000 strokes : 160.5
CRT mm main.	: > 19.00	Tolerance + cm3/1000 strokes : + 2.0
Testing:		+ Check tolerance + cm3/1000S. : + 5.0
Rated speed rpm rack travel mm Tolerance mm	: 500 : 5.50 : + 0.10	Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 11.75 : ← 0.05	rack travel mm : 12.45 Tolerance mm : + 0.20
Rated speed rpm rack travel mm Tolerance mm		Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm rack travel mm: Tolerance mm	: 12.45	Del. quantity + cm3/1000 strokes : 117.5 + Tolerance + cm3/1000 strokes : + 1.0 Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000s. : + 3.0
SETTING		+ STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa	: 500 : 1200	Rated speed rpm : 100 rask travel mm : 20.56 Tolerance mm : + 1.00
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.70 : + 0.20	+ Del. quantity + cm3/1000 strokes : 177.0 + Tolerance + cm3/1000 strokes : + 10.0 + Check tolerance
MEASUREMENT		cm3/1000s. : + 13.0
Rated speed rpm		+
Pressure hPa rack travel mm Tolerance mm	: 930 : 12.60 : ← 0.20	LOW IDLE Rated speed rpm : 500
Pressure hPa rack travel mm Tolerance mm	: 640 : 11.40 : ← 0.20	Rack travel in mm: 5.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 21.5

Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s. Spreed	: +-	4.5
Tolerance cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	•	5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.01.98 **Edition** : ISO 4113 Test oil

Combination No. : F CO2 AUZ 061

Injection pump

Pump designation : PES4A950320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1100A20941R

Governer no. : F 002 A20 242

Cust. part No. : 3930143

Customer-spec. information Customer : CDC : 4BNA3.9 Motor : 54.0 Power KW

TEST BENCH REQUIREMENTS

: 3.2 Inlet line

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar Tolerance bar : **←** 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

2.0 x inside diameter: 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.85 : **←** 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-3-4-2

: 0-90-180-270 Phasing : + 0.50

Tolerance

Check

: + 0.75tolerance *NW

Start of delivery blocking

*NW after s.o.d. :

: **+-** 0.50 Tolerance

Check

tolerance *NW : + - 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.55 Tolerance mm : + 0.05

D26

	rack trayel mm : 4.00 Rated speed rpm : 1250
Rated speed rpm : 475	Tolerance 1/min : ← 15
Rack travel in mm : 5.40 Tolerance mm : + 0.20	
Del. quantity cm3/1000 strokes : 13.5 Tolerance	LOW IDLE
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000S. : + 4.5	control lever position degree : 80.0 tolerance degree : + 4.0
Spreed Tolerance	Control lever difference
cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 5.5	Grad : 20.0 tolerance degree : +- 6.0
‡	Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 475 rack travel mm : 4.90 Tolerance mm : + 0.20
GUIDE SLEEVE POSITION	Rated speed rpm : 100 CRT mmm min. : > 19.00
control lever	Testing:
position degree : -3 Rated speed rpm : 300	Rated speed rpm : 475
Rack travel in mm: 0.50 Tolerance mm: + 0.20	rack travel mm : 5.40 Tolerance mm : + 0.20
governor spring pre-tension click setting x : 3.00	TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 10.55 Tolerance mm : +- 0.05
CONTROL LEVER	Rated speed rpm : 600 rack travel mm : 10.55 Tolerance mm : +- 0.20
control lever position degree : 100.0 tolerance degree : + 4.0	
RATED SPEED rack travel mm : 9.50 Rated speed rpm : 1175	FUEL DELIVERY CHARACTERISTICS
Tolerance 1/min : + 5	Aneroid pressure hPa : -
rack travel mm : 4.00 + Rated speed rpm : 1240 + Tolerance 1/min : + 5	Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 82.0
rack travel mm : 0.85 Tolerance mm : + 0.55	Tolerance cm3/1900 strokes : +- 1.0 Check tolerance
Tolerance mm : + 0.55 Rated speed rpm : 1350	cm3/1000s. : \(\psi \) 3.0 Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 5.40
Tolerance mm: + 0.20
Del. quantity

cm3/1000 strokes : 13.5 Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 28.01.98 : ISO 4113

Combination No. : F 002 AUZ 042

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A0C924R

Governer no. : F 002 A20 232

Cust. part No. : 3932477

Customer-spec. information : CDC

Customer

Motor Power KW

: 6BT : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: **←** 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x Length mme : 600

x inside diameter: 2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm :

2.85

Tolerance mm

: +- 0.05

Check

tolerance mm

: **←** 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance

: +- 0.50

Check

tolerance *NW

: + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.75

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes : 77.5

E01

	+ Del. quantity
Tolerance	+ cm3/1009 strokes : 77.5
cm3/1000 strokes : +- 1.0	+ Tolerance
	+ cm3/1000 strokes : + 1.0
Check tolerance	+ Check tolerance
$cm3/1000s.$: \leftarrow 3.0	+ cm3/1000s. : +- 3.0 + Spreed
Spreed	+ Tolerance
opi ced	+ cm3/1000 strokes : 3.5
Tolerance	+ Check tolerance
cm3/1000 strokes : 3.5	+ cm3/1000s. : 6.0
ot all the same	†
Check tolerance cm3/1000s. : 6.0	İ
tm3/10003: . 0.0	CONTROL LEVER
	+
•	+ control lever
Rated speed rpm : 500	+ position degree : 95.0
Dook Annual Salam a F 10	tolerance degree : + 4.0
Rack travel in mm : 5.10 Tolerance mm : +- 0.10	RATED SPEED
Del. quantity	+ rack travel mm : 8.80
cm3/1000 strokes : 18.5	+ Rated speed rpm : 1160
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0	†
Check tolerance cm3/1000s. : ← 4.5	+ rack travel mm : 5.40 + Rated speed rpm : 1220
Spreed	+ Tolerance 1/min : + 5
Tolerance	+
cm3/1000 strokes : 3.5	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1400
	+ rack travel mm : 5.40
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1225
WITH GOVERNOR	+ Tolerance 1/min : + 15
	+
	†
GUIDE SLEEVE POSITION	I
GOIDE GEETE FOOTIEN	+ LOW IDLE
	+
control lever	†
position degree : - 3 Rated speed rpm : 800	+ control lever + position degree : 80.0
Rated Speed Tun . 000	tolerance degree : + 4.0
Rack travel in mm : 0.50	+
Tolerance mm : + 0.20	+ Control lever difference
	+ Grad : 15.0
governor spring	tolerance degree : +- 6.0
pre-tension click setting x : 2.25	F Setting point w/out bumper spring
ceion security x . E.E.	+ Sections points wroat bumper spring
	Rated speed rpm : 500
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.60
0.4.d	† Tolerance mm : ← 0.10
Rated speed rpm : 1100	+ Rated speed rpm : 100
Aneroid pressure hPa : -	T Mateu speed (pin . 100
*	+ CRT mm min. : > 19.00
	•

Testing:

Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : +- 0.10

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 9.75 Tolerance mm : + 0.05

Rated speed rpm : 800 rack travel mm : 10.80 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 89.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 120.5

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 500

Rack travel in man: 5.10
Tolerance man: + 0.10

Del. quantity

cm3/1000 strokes : 18.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance cm3/1000S. : +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 28.01.98

Test oil

: ISO 4113

Combination No. : 0 402 046 861

Injection pump

Pump designation : PE6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQ325/1300PA1150

Governer no. : 0 421 801 716

Cust. part No. : 1284420/4

Customer-spec. information : DAF Customer

Motor

: NS156M

Power KW

: 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: **←** 2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

2.0 x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order

: 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance *NW

: +- 0.75

Start of delivery mark

Tolerance

: + 0.10

Check

tolerance *NW

: + 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85

Tolerance mm : \leftarrow 0.05

E04

Del. quantity cm3/1000 strokes : 144.0	† Tolerance mm : ← 0.10
Tolerance	Rated speed rpm : 590 guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 6.00
	+ Tolerance mm : + 0.10
Check tolerance	P.A. d. avandama (4570
cm3/1000s. : \leftarrow 4.0	Rated speed rpm : 1570 guide sleeve
Spreed	T guide steeve + travel mm : 11.50
opi ccu	+ Tolerance mm : + 0.50
Tolerance	+
cm3/1000 strokes : 4.0	CUIDE CLEENE DOCUTION
Check tolerance	_ † GUIDE SLEEVE POSITION
cm3/1000s. : 7.5	
	position degree : 109
Dated around non- 1 725	+ Rated speed rpm : 650
Rated speed rpm : 325	Rack travel in mm: 20.00
Rack travel in mm : 4.50	+ Tolerance mm : +- 0.80
Tolerance mm : + 0.10	+
Del. quantity	
cm3/1000 strokes : 26.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes : +- 2.5	Rated speed rpm : 1000
Check tolerance	+ Aneroid pressure
cm3/1000s. : $+$ 5.0	+ hPa : 1000
Spreed	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 144.0
cm3/1000 strokes : 12.0 Check tolerance	+ Tolerance + cm3/1000 strokes : +- 1.0
cm3/1000s. : 15.0	Check tolerance
(1000)	+ cm3/1000s. : + 4.0
	Spreed
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : 4.0 + Check tolerance
	- + cm3/1000s. : 7.5
GUIDE SLEEVE TRAVEL	+
	+
Rated speed rpm : 1351	CONTROL LEVER
guide sleeve travel mm : 6.37	I CONTROL LEVER
Tolerance mm : + 0.10	control lever
	position degree : 93.0
Rated speed rpm : 325	+ tolerance degree : ← 4.0
guide sleeve	DATEN CREEN
travel mm : 1.99 Tolerance mm : +- 0.10	+ RATED SPEED + rack travel mm : 10.85
(Oteras)te min . (= 0.10	Rated speed rpm : 1345
Rated speed rpm : 1300	+ Tolerance 1/min : + 5
guide sleeve	+ Check
travel ma : 6.00	+ speed 1/min : + 10
Tolerance mm : +- 0.10	† rack travel mm : 4.00
Rated speed rpm : 427	+ rack travel mm : 4.00 + Rated speed rpm : 1450
guide steeve	Tolerance 1/min : +- 15
travel mm : 3.54	+
	•

Check speed 1/min rack travel mm Tolerance mm Rated speed rpm	: +- 0.50
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 225
CRT mm min.	: > 5.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
rack travel mm Rated speed rpm	: 2.00 : 415
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.85 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1000 : 11.85 : + 0.05

rack travel mm Tolerance mm	: 7.35 : + 0.20
MEASUREMENT	
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 370 : 10.75 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 200 : 8.40 : + 0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa	: 1000
Rated speed rpm Del. quantity	: 700
cm3/1000 strokes	: 145.0
Tolerance	
cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s.	: - 5.0
rack travel mm	: 11.85
Tolerance mm	: + 0.05
Aneroid pressure	
hPa	4000
Rated speed rpm Del. quantity	: 1000
cm3/1000 strokes	: 94.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: + 3.5
LOW IDLE	
Rated speed rpm	: 325
Rack travel in mo	
Tolerance mm	: ← 0.10
Del. quantity	
cm3/1000 strokes	: 26.0

Tolerance cm3/1000 strokes : + 2.5

E06

Rated speed rpm : 600 Pressure hPa : -

Check tolerance cm3/1000s. : + 5.0

Spreed

Tolerance

cm3/1000 strokes : 12.0

Check tolerance cm3/1000s. : 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 28.01.98 : ISO 4113

Combination No. : 0 402 046 873

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

6overnor

Governer design. : RQV325...1250PA1251

Governer no.

: 0 421 814 164

Cust. part No. : 1305227

Customer-spec. information

Customer : DAF

Motor

: NS177M

Power KW

: 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +-2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Tolerance bar : ← 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 008

E08

bar

Outside diameter : 6.0

x inside diameter:

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm

: 5.25

Tolerance mm

: **←** 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm:

20.50

Tolerance mm : \leftarrow 0.50

Firing order

: 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance *NW

: **←** 0.75

Start of delivery mark

Tolerance

: + 0.10

Check

tolerance *NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

1000

Rack travel in mm: 12.25

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes	: 149.5	+ Tolerance mm : + 0.25
Tolerance		+ Rated speed rpm : 1510 + guide steeve
cm3/1000 strokes	: +- 1.0	travel mm : 13.50 + Tolerance mm : + 0.50
Check tolerance		
cm3/1000s.	: ← 4.0	GUIDE SLEEVE POSITION
Spreed		T SEELEVE FOCITION
Tolerance		+ control lever
cm3/1000 strokes	: 12.0	+ position degree : - 1
CINDY (DOD SETORES		+ Rated speed rpm : 1360
Check tolerance		+
cm3/1000s.	: 15.0	+ Rack travel in mm : 11.25
		+ Tolerance mm : + 1.30
		I
Rated speed rpm	: 325	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m	na: 4.40	+ Rated speed rpm : 1000
Tolerance mm		+ Aneroid pressure
Del. quantity		+ hPa : 1500
cm3/1000 strokes	: 26.0	+ Del. quantity
Tolerance	. 20.0	+ cm3/1000 strokes : 149.5
cm3/1000 strokes	· +- 25	+ Tolerance
Check tolerance	2.5	- cm3/1000 strokes : + 1.0
cm3/1000s.	: ← 5.0	+ Check tolerance
Spreed		+ cm3/1000s. : +- 4.0
Tolerance		+ Spreed
cm3/1000 strokes	: 4.0	+ Tolerance
Check tolerance	. 4.0	- cm3/1000 strokes : 12.0
cm3/1000s.	: 7.5	Check tolerance
CM37 10003.		+ cm3/1000s. : 15.0
(B) SETTING OF IN	ALIFOTTONI DIMID	†
	MECITON PUMP	T
WITH GOVERNOR		CONTROL LEVER
		+ CONTINUE EEVEN
GUIDE SLEEVE TRAN	VEL	+ control lever
		position degree : 123.0
Rated speed rpm	: 1308	+ tolerance degree : + 4.0
guide sleeve	- · -	+
travel mm	: 10.40	+ RATED SPEED
Tolerance mm	: ← 0.15	+ rack travel mm : 11.25
		+ Rated speed rpm : 1290
Rated speed rpm	: 325	Tolerance 1/min : + 5
guide sleeve		+ Check
travel mm	: 1.25	+ speed 1/min : + 10
Tolerance mm	: + 0.20	+
		rack travel mm : 4.00
Rated speed rpm	: 868	Rated speed rpm : 1375
guide sleeve		Tolerance 1/min : + 15
travel mm	: 5.45	Check
Tolerance mm	: + 0.25	speed 1/min : + 20
		+
Rated speed rpm	: 520	rack travel mm : 0.50
guide sleeve		Tolerance mm : + 0.50
travel mm	: 3.02	Rated speed rpm : 1500
a e e e e e e	_	•

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 5.90

Testing:

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : + 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.25 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.25 Tolerance mm : + 0.10

Rated speed rpm : 1250 rack travel mm : 12.25 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : + 0.05

Rated speed rpm: : 600
Pressure hPa : rack travel mm : 7.00
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 430 rack travel mm : 10.90 Tolerance mm : +- 0.05

Pressure hPa : 220 rack travel mm : 7.85 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

·

Aneroid pressure hPa : 1500 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 153.0

Tolerance

cm3/1000 strokes : + 3.0 Check tolerance

Check tolerance

cm3/1000s. : +- 6.0

rack travel mm : 12.25
Tolerance mm : + 0.10

Aneroid pressure

hPa : -Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : + 3.5

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 4.40
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 26.0
Tolerance
cm3/1000 strokes: + 2.5

cm3/1000 strokes : + 2.5 Check tolerance

cm3/1000s. : +- 5.0 Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 28.01.98 : ISO 4113

Combination No. : 0 402 046 881

Injection pump

Pump designation : PES6P110A320RS3329

EP type number

: 0 412 016 743

Governor

Governer design. : RQ325...1250PA1370

Governer no. : 0 421 801 828

Cust. part No. : 1305236

Customer-spec. information

: DAF Customer : NS177M Motor

Power KW

: 177.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 1 417 413 000 Overflow valve

1.5 Inlet press. bar :

: +- 0.1 Tolerance bar

Overflow quantity

: 140 min. L/h

Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5

: **←** 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter : 6.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

5.25 Prestroke mm

: +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 12.25

Tolerance mm : + 0.05

		1	guide sleeve	
Del. quantity		I	travel mm	: 3.48
cm3/1000 strokes	: 149.5	+	Tolerance mm	: + 0.10
Tolerance			Rated speed rpm	: 590
cm3/1000 strokes	: + 1.0	1	guide sleeve	7 770
	•	1	travel mm	: 6.00
Check tolerance	····		Tolerance mm	: +- 0.10
cm3/1000s.	: + 4.0	1		30,10
	•	1	Rated speed rpm	: 1460
Spreed	·		guide sleeve	
		1	travel mm	: 11.50
Tolerance		1	Tolerance mm	: +- 0.50
cm3/1000 strokes	: 4.0	+		
		+		
Check tolerance		+	GUIDE SLEEVE POSI	TION
cm3/1000s.	: 7.5	· +		
		+	control lever	
		+	position degree	: 109
Rated speed rpm	: 325	+	Rated speed rpm	: 600
		+		
Rack travel in m		+	Rack travel in mo	
Tolerance mm	: ← 0.10	+	Tolerance mm	: 0.80
Del. quantity		+		
cm3/1000 strokes	: 26.0	+		······
Tolerance		+	FULL LOAD DELIVER	RY AT FULL LOAD STOP
cm3/1000 strokes	: ← 2.5	+		
Check tolerance	_	+	Rated speed rpm	: 1000
cm3/1000s.	: ← 6.0	+	Aneroid pressure	4.500
Spreed		+	hPa	: 1500
Tolerance		†	Del. quantity	410 5
cm3/1000 strokes	: 8.0	†	cm3/1000 strokes	: 149.5
Check tolerance	42.0	†	Tolerance	
cm3/1000s.	: 12.0	T	cm3/1000 strokes Check tolerance	: +- 1.0
		Ť	cm3/1000s.	: +- 4.0
(B) SETTING OF I	NIECTION DIME	I	Spreed	4.0
WITH GOVERNOR	ARECITON LOWE	I	Tolerance	
MILL GOVEWOR		I	cm3/1000 strokes	: 4.0
		I	Check tolerance	
GUIDE SLEEVE TRA	VFI	1	cm3/1000s.	
OOTAL OFFICE LIVE	· · · · · · · · · · · · · · · · · · ·	1		
Rated speed rpm	: 1292	+		
guide sleeve		+		
travel mm	: 6.37	+	CONTROL LEVER	
Tolerance mm	: ← 0.15	+		
		+	control lever	
Rated speed rpm	: 325	+	position degree	
guide sleeve		+	tolerance degree	: +- 4.0
travel mm	: 1.99	†		
Tolerance mm	: ← 0.20	†	RATED SPEED	44 25
	4000	†	rack travel mm	17.45
Rated speed rpm	: 1000	†	Rated speed rpm	: 1290
guide sleeve		†	Tolerance 1/min	: +- 5
travel mm	: 6.00	†	Check	40
Tolerance mm	: ← 0.10	†	speed 1/min	: ← 10
Dotad speed are	. 1.74	†	rack travel mm	. " "
Rated speed rpm	. 420	Ī	Rated speed rpm	
		Т	nated speed (bill	. 1010

Tolerance $1/\min$: \leftarrow 15

Check

: +speed 1/min 20

rack travel mm : 0.50 : **←** 0.50 Tolerance mm Rated speed rpm : 1500

LOW IDLE

control lever

75.0 position degree : tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. :> 6.00

Testing:

325 Rated speed rpm rack travel mm : 4.40 : + 0.10Tolerance mm

2.00 rack travel mm : Rated speed rpm : 415 Tolerance 1/min : +-

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.25 : + 0.05Tolerance mm

Rated speed rpm : 1250 rack travel mm : 12.25 : + 0.10Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 600 Pressure hPa 1500 12.25 rack travel mm : **←** 0.05 Tolerance mm

600 Rated speed rpm : Pressure hPa 7.00 rack travel mm : : +- 0.20 Tolerance mm

MEASUREMENT

Rated speed rpm : 600

Pressure hPa 430 10.90 rack travel mm : +- 0.05 Tolerance man

Pressure hPa 220 8.10 rack travel mm : : + 0.10 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 4.40 Tolerance mm: $\leftarrow 0.10$

Del. quantity

cm3/1000 strokes : 26.0

Tolerance

cm3/1000 strokes : +- 2.5

Check tolerance

cm3/1000s. : +- 6.0

Spreed Tolerance

cm3/1000 strokes :

8.0

Check tolerance

: 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.01.98 : ISO 4113 Test oil

Combination No. : 0 402 076 820

Injection pump

Pump designation : PES6P120A720LS3395 EP type number : 0 412 026 806

Governor

Governer design. : RSV350...1200P0A688

Governer no. : 0 421 833 610

Cust. part No. :

Customer-spec. information

: FINCANTIERI Customer : L 1306 T 2 MSD Motor

: 370.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 115 Tolerance l/h : + 15.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Tolerance mm : 3.55

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm: \leftarrow 0.50

Firing order : 1-5A-3-6A-2

: - 4A

: 0-60-120-180-240 Phasing

: -300

: + 0.50Tolerance

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 14.45 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 276.0

Tolerance

cm3/1000 strokes : + 1.0

4 NCAAC	- 4.0
Spreed + Spreed + Tolerance + cm3/1000 strokes :	6.0
Tolerance Check tolerance cm3/1000 strokes : 6.0 cm3/1000s. :	9.0
Check tolerance cm3/1000s. : 9.0 CONTROL LEVER	
TOWING LEVER	
Rated speed rpm : 350 + control lever + position degree : + tolerance degree : +	
Rack travel in mm: 4.00	
Tolerance mm : + 0.10 + RATED SPEED + rack travel mm :	13.40
cm3/1000 strokes : 19.0 + Rated speed rpm :	1245
Tolerance + Tolerance 1/min : + cm3/1000 strokes : + 3.0 +	- 5
	4.00
	1410
Spreed + Tolerance 1/min : + Tolerance +	- 15
cm3/1000 strokes : 8.0 + rack travel mm :	0.85
	- 0.55 1570
tillo 10005	1570
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
+ LOW IDLE	
	
GUIDE SLEEVE POSITION control lever position degree :	
GUIDE SLEEVE POSITION	
GUIDE SLEEVE POSITION	- 4.0
GUIDE SLEEVE POSITION control lever position degree : + control lever position degree : - 3 Rated speed rpm : 800	- 4.0 umper spring
GUIDE SLEEVE POSITION control lever position degree : + control lever position degree : -3 Rated speed rpm : 800 control lever position degree : -3 Rated speed rpm : 800	- 4.0 umper spring 350
GUIDE SLEEVE POSITION control lever position degree : + control lever position degree : - 3 Rated speed rpm : 800	- 4.0 umper spring 350
GUIDE SLEEVE POSITION control lever position degree : tolerance degre	- 4.0 umper spring 350 3.50 - 0.10
GUIDE SLEEVE POSITION control lever position degree : tolerance degree : tolerance degree : tolerance degree : + Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.25 control lever position degree : tolerance degree : + tolerance degree : + Tolerance mm : Tolerance mm : + Testing: Rated speed rpm : Rated speed rpm :	- 4.0 unaper spring 350 3.50 - 0.10
GUIDE SLEEVE POSITION control lever position degree : tolerance degree : tolerance degree : tolerance degree : + Setting point w/out be Rated speed rpm : 800 Rack travel in mm : 0.50	- 4.0 umper spring 350 3.50 - 0.10
GUIDE SLEEVE POSITION control lever position degree : tolerance degree : tolerance degree : tolerance degree : + control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.25 FULL LOAD DELIVERY AT FULL LOAD STOP control lever position degree : tolerance degree : + tolerance degree : + tolerance degree : + tolerance degree : + tolerance degree : + tolerance degree : + tolerance degree : + tolerance of tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : +	- 4.0 unaper spring 350 3.50 - 0.10 350 4.00 - 0.10
GUIDE SLEEVE POSITION Control lever position degree : + control lever position degree : + Setting point w/out be Rated speed rpm : 800 Rated speed rpm : rack travel mm : Tolerance mm : + 0.20 Governor spring pre-tension click setting x : 5.25 FULL LOAD DELIVERY AT FULL LOAD STOP Control lever position degree : + tolerance degree : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : +	- 4.0 unaper spring 350 3.50 - 0.10 350 4.00 - 0.10 2.00
GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : Rated speed rpm : rack travel mm : Tolerance mm : + Tolerance mm : + Tolerance mm : Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance mm : + Tolerance 1/min : + Tolerance 1/min : +	- 4.0 unaper spring 350 3.50 - 0.10 350 4.00 - 0.10 2.00 505
GUIDE SLEEVE POSITION Control lever position degree : tolerance degree : tolerance degree : tolerance degree : + Control lever position degree : - 3 Rated speed rpm : 800 Rated speed rpm : cack travel mm : rack travel mm : Tolerance mm : + 0.20 Governor spring pre-tension click setting x : 5.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Rated speed rpm : Rated speed rpm : rack travel mm : Tolerance mm : + Tolerance mm :	- 4.0 unaper spring 350 3.50 - 0.10 350 4.00 - 0.10 2.00 505
GUIDE SLEEVE POSITION control lever position degree : tolerance degre	- 4.0 unaper spring 350 3.50 - 0.10 350 4.00 - 0.10 2.00 505 - 30
GUIDE SLEEVE POSITION control lever position degree : tolerance : tolerance degree : tolerance : tolerance degree : tolerance : tolerance degree : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolerance : tolera	- 4.0 unaper spring 350 3.50 - 0.10 350 4.00 - 0.10 2.00 505 - 30

Rated speed rpm rack travel mm Tolerance mm	: 600 : 14.50 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 300 : 15.00 : ← 0.30
Rated speed rpm rack travel nom Tolerance man	: 400 : 14.50 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1600 : 14.45 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : - : 10.00 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 700 : 11.40 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 1050 : 13.25 : ← 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1600 : 600
Del. quantity cm3/1000 strokes Tolerance	: 349.0
cm3/1000 strokes Check tolerance	: + 3.0

6.0

Rated speed rpm Del. quantity	:	600
cm3/1000 strokes Tolerance	:	230.0
cm3/1000 strokes	: +	- 1.0
Check tolerance cm3/1000s.	: +	- 4.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	10.0
cm3/1000s.	:	14.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm rack travei mm Tolerance mm	: :		100 20.25 0.75
Del. quantity cm3/1000 strokes Tolerance	:		500.0
cm3/1000 strokes	: 4	-	20.0
Check tolerance cm3/1000s.	: 4	—	25.0

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm	:	350
Rack travel in mm Tolerance mm Del. quantity	: : +-	4.00 0.10
cm3/1000 strokes	:	19.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance cm3/1000S.	:	12.0

hPa

cm3/1000s.

Aneroid pressure

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.01.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 780

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -2K

: 0 421 815 548 Governer no.

Cust. part No. : 988 04 47

Customer-spec. information Customer : LIEBHERR

: D 9408 TI-EA3 Motor

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 230 Tolerance L/h : ← 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.65 : ← 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : **←** 0.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

: 0-45-90-135-180 Phasing : -225-270-315

: **+-** 0.50 Tolerance

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 295.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.	: + 4.0	
Spreed		GUIDE SLEEVE POSITION
opi cea	1	
Tolerance cm3/1000 strokes	: 5.0	control lever position degree : - 1 Rated speed rpm : 1180
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 12.50 Tolerance mm : +- 2.70
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: + 0.10	Rated speed rpm : 1050 Aneroid pressure hPa : 1600 Del. quantity
Tolerance cm3/1000 strokes	: ← 3.0	cm3/1000 strokes : 295.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. Spreed	: +- 6.0	Check tolerance cm3/1000s. : + 4.0
Tolerance	 	Spreed
cm3/1000 strokes	: 6.0	Tolerance
Check tolerance cm3/1000s.	: 10.0	cm3/1000 strokes : 5.0 Check tolerance
	+	cm3/1000s. : 9.0
(B) SETTING OF INJ	I COTTON DIMO	
WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
		control lever
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm	<u> </u>	
WITH GOVERNOR GUIDE SLEEVE TRAVE	<u> </u>	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve	: 1117	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1117 : 10.27 : + 0.15 : 300	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm travel mm Rated speed rpm guide sleeve travel mm	: 1117 : 10.27 : + 0.15 : 300 : 1.11	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1117 : 10.27 : + 0.15 : 300	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm travel mm Rated speed rpm guide sleeve travel mm	: 1117 : 10.27 : + 0.15 : 300 : 1.11	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200
Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm	: 1117 : 10.27 : + 0.15 : 300 : 1.11 : + 0.20 : 755 : 6.17	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1117 : 10.27 : + 0.15 : 300 : 1.11 : + 0.20 : 755	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1117 : 10.27 : + 0.15 : 300 : 1.11 : + 0.20 : 755 : 6.17 : + 0.25 : 480	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1117 : 10.27 : + 0.15 : 300 : 1.11 : + 0.20 : 755 : 6.17 : + 0.25	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	EL : 1117 : 10.27 : → 0.15 : 300 : 1.11 : → 0.20 : 755 : 6.17 : → 0.25 : 480 : 3.75	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1117 : 10.27 : + 0.15 : 300 : 1.11 : + 0.20 : 755 : 6.17 : + 0.25 : 480 : 3.75 : + 0.25	control lever position degree : 121.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.65 Rated speed rpm : 1110 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1300

Setting point w/o	out bumper spring	+ Tolerance m	: +- 0.05
		+ Pressure hP	a ; 700
Rated speed rpm	: 250		mm : 9.50
		+ Tolerance m	n : ← 0.20
CRT mm min.	: > 6.60	<u> </u>	
Testing:		Start inter	lock
Rated speed rpm	: 350	Rated speed	rpm : > 100
rack travel mm			rpm : < 270
Tolerance am	: ← 0.10	1	
		+ Check	
Rated speed rpm	: 400		: > 80
.acca opeca .p.m		+ Check	
		- + speed 1/min	: < 290
ORQUE CONTROL			
Rated speed rpm	: 1050	1	-
rack travel ma		FILE DELIVE	RY CHARACTERISTICS
rack travel mm Tolerance mm	: ← 0.05	1 COLE DELIVE	" CHUNDOICKTOITCO
・いして 日本 にて 「麻神	0.07	Ι	
Dated apped non	. 500	T Amonoid mad	201100
Rated speed rpm	10.00	+ Aneroid pres	: 1600
ack travel mm	: 10.00	+ hPa	
olerance mm	: ← 0.10		rpm: 500
	0.00	+ Del. quanti	;y
ted speed rpm		F	rokes : 280.0
ck travel mm		+ Tolerance	
erance nm	: ← 0.10	+ cm3/1000 st	rokes : + 3.0
		+ Check tolera	
ed speed rpm	: 950	+ cm3/1000s.	: +- 6.0
k travel mm	: 12.20	+	
erance mm		+	
		+ Aneroid pres	sure
ted speed rpm	: 600	+ hPa	: 1600
ick travel mm	: 10.80	Rated speed	rom 800
lerance mm		+ rack travel	
CEI CHINCE IMM	0.20	+ Tolerance m	: + 0.10
		- Del. quantit	
NEROID/ALTITUDE			okes : 299.0
MPENSATOR TEST		Tolerance	unca . 277.0
TENOMIUM IEOI			okes : +- 3.0
TAIC		+ Check tolers	
TING		+ cm3/1000s.	: +- 0.0
المتحصم المتح	. 1000	Ť	
ted speed rpm		†	
ssure hPa	: 1600	+ Aneroid pres	sure
ck travel mm		+ hPa	: -
erance mm	: ← 0.05	+ Rated speed	
		+ Del. quantit	y
ed speed rpm	: 1050		okes : 209.0
ressure hPa	: -	+ Tolerance	
ack travel mm	: 8.30	+ cm3/1000 str	okes : + 1.0
olerance mm	: + 0.20	+ Check tolers	
,		+ cm3/1000s.	
EASUREMENT		+ Spreed	
		+ Tolerance	
ated speed rpm	• 1050	- cm3/1000 str	okes : 8.0
aren sheen i.hiii	. 1070	+ Check tolera	
Pagarina LDs	: 1050	+ cm3/1000s.	
Pressure hPa		T (m)/10003.	. 12.0
ack travel mm	: 11.80	Ť	

roterance mm	: +- 0.05
Pressure hPa rack travel mm Tolerance mm	; 700 : 9.50 : ← 0.20
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
•	: > 80
Check speed 1/min	: < 290
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: 1600 : 500
Rated speed rpm Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: +- 6.0
Aneroid pressure	3/00
hPa Rated speed rpm	: 1600 : 800
rack travel mm	: 11.80
Tolerance mm Del. quantity	: ← 0.10
cm3/1000 strokes	: 299.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s.	: +- 6.0
Aneroid pressure	
hPa Rated speed rpm	: - : 550
Del. quantity cm3/1000 strokes	: 209.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.00 Tolerance mm : + 0.30

Del. quantity

cm3/1000 strokes : 180.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 4.90 Tolerance mm : ← 0.10 Del. quantity

Del. quantity cm3/1000 strokes : 30.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.01.98 : ISO 4113

Combination No. : 0 402 648 780A

Injection pump

Pump designation: PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

6overner design. : RQV300...1050PA1078

: -2K

: 0 421 815 548 Governer no.

Cust. part No. : 988 04 47

Customer-spec. information : LIEBHERR Customer

: D 9408 TI-EA3 Motor

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

2.0 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar $: \leftarrow 1.0$

Prestroke mm 3.65 : + 0.05Tolerance mm

Check

tolerance mm : + - 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-8-7-2-6 Firing order : - 3- 5- 4

: 0-45-90-135-180 Phasing : -225-270-315

Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 295.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 5.0 Distribution degree cm3/1000s. 1182	Check tolerance Check tole	
Check tolerance Check tole	Check tolerance cn3/1000s. : 9.0	
Rated speed rpm : 1182	Rated speed rpm : 1182	- 1
Rated speed rpm : 350	Rack travel in mm : 12.48	1182
Rated speed rpm : 350 Rack travel in mm : 4.90 Tolerance mm : → 0.10 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : → 3.0 Tolerance cm3/1000 strokes : → 3.0 Tolerance cm3/1000 strokes : → 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Tolerance cm3/1000 strokes : → 6.0 Spreed Tolerance cm3/1000 strokes : → 6.0 Tolerance cm3/1000 strokes : → 6.0 Tolerance cm3/1000 strokes : → 6.0 Tolerance cm3/1000 strokes : → 6.0 Tolerance cm3/1000 strokes : → 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. (B) SETTING OF INJECTION PUMP MITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1117 guide sleeve travel mm : 10.27 Tolerance mm : → 0.15 Rated speed rpm : 1110 Tolerance degree : → 4.0 guide sleeve travel mm : 1.11 Tolerance mm : → 0.20 Rated speed rpm : 1200 Tolerance 1/min : → 5 guide sleeve travel mm : 6.17 Tolerance mm : → 0.25 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1200 Tolerance 1/min : → 15 Rated speed rpm : 1200 Tolerance 1/min : → 15 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300	Rated speed rpm : 350 Rated speed rpm : 350 Rack travel in mm : 4.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 10.0 (B) SETTINS OF INJECTION PUMP MITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1117 guide sleeve travel mm : 10.27 Tolerance mm : + 0.15 Rated speed rpm : 300 guide sleeve travel mm : 1.11 Tolerance mm : + 0.20 Rated speed rpm : 1200 Tolerance 1/min : + 5 guide sleeve travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 3.75 Tolerance mm : + 0.50 Tolerance degree : + 4.0 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance degree : 73.0 Tolerance mm : 73.0 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50	40.40
Rated speed rpm : 350 Rack travel in mm : 4.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 30.0 Check tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000 strokes : 6.0 Spreed Tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000s. : + 0.0 Check tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : 9.0 Check tolerance cm3/1000s. : 9.0 Check tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : 9.0 Check tolerance cm3/1000s. : 9.0 Control Lever position degree : 121.0 tolerance degree : 4.0 guide sleeve travel mm : 10.27 Tolerance mm : 4.00 Rated speed rpm : 1110 Tolerance mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 5 guide sleeve travel mm : 6.17 Tolerance mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 1200 Tolerance 1/min : + 0.50 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300 Rated speed rpm : 1300	Rated speed rpm : 350 Rack travel in mm : 4.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 5.0 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Tolerance cm3/1000 strokes : 4.0 Spreed Control Lever position degree : 121.0 Tolerance 1/min : + 5 Rated speed rpm : 1110 Tolerance 1/min : + 5 Tack travel mm : 1.65 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 200 Tolerance 1/min : + 15 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance degree : 73.0 Tolerance degree : 73.0 Tolerance degree : 73.0 Tolerance degree : 73.0 Tolerance degree : 73.0 Tolerance degree : 4.0	
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Tolerance mm	Tolerance mm	FULL LOAD STOP
Tolerance mm : → 0.10 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : → 6.0 Spreed Tolerance cm3/1000s. : → 6.0 Check toterance cm3/1000 strokes : → 1.0 Check tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Spreed Tolerance cm3/1000s. : → 4.0 Check tolerance cm3/1000s. : → 9.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1117 guide sleeve travel mm : → 0.15 Rated speed rpm : 300 Guide sleeve travel mm : → 0.15 Rated speed rpm : 1111 Tolerance mm : → 0.20 Rated speed rpm : 1200 Tolerance 1/min : → 15 Rated speed rpm : 1200 Tolerance 1/min : → 15 Rated speed rpm : 1300 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : → 0.25 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330	Tolerance mm	1050
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cm3/1000 strokes : 6.0 Tolerance cm3/1000 strokes : 5.0 cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 9.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR CONTROL LEVER GUIDE SLEEVE TRAVEL control lever position degree : 121.0 tolerance degree : + 4.0 Rated speed rpm : 10.27 RATED SPEED rack travel mm : 111.65 Rated speed rpm : 300 Rated speed rpm : 1110 Rated speed rpm : 300 Tolerance 1/min : + 5 guide sleeve travel mm : 1.11 rack travel mm : 4.00 travel mm : - 0.20 Rated speed rpm : 1200 Rated speed rpm : 755 rack travel mm : 0.50 guide sleeve travel mm : - 0.25 rack travel mm : 0.50 travel mm : - 0.25 rack travel mm : 1300 Rated speed rpm : 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480 rack travel mm : - 0.50 Rated speed rpm : - 480	cm3/1000 strokes : 6.0 Tolerance cm3/1000 strokes : 5.0 cm3/1000S. : 10.0 Check tolerance cm3/1000S. : 9.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR CONTROL LEVER GUIDE SLEEVE TRAVEL control lever position degree : 121.0 Rated speed rpm : 1117 tolerance degree : + 4.0 guide sleeve travel mm : 10.27 RATED SPEED travel mm : 11.05 rack travel mm : 11.05 Rated speed rpm : 300 Tolerance 1/min : + 5 guide sleeve travel mm : 1.11 rack travel mm : 4.00 Tolerance mm : + 0.20 Rated speed rpm : 1200 Tolerance mm : + 0.25 rack travel mm : 0.50 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 LOW IDLE Rated speed rpm : 1330 control lever position degree : 73.0 Tolerance mm : + 0.25 tolerance degree : 4.0	- 4.U
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guide sleeve travel mm : 10.27 Tolerance mm : + 0.15 Rated speed rpm : 300 guide sleeve travel mm : 1.11 Tolerance mm : + 0.20 Rated speed rpm : 755 guide sleeve travel mm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 300 Rated speed rpm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 3.75 Tolerance mm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 Rated speed rpm : 1330 quide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 quide sleeve control lever	guide sleeve travel mm : 10.27 Tolerance mm : + 0.15 Rated speed rpm : 300 guide sleeve travel mm : 1.11 Tolerance mm : + 0.20 Rated speed rpm : 1200 Tolerance mm : + 0.20 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 0.50 Tolerance 1/min : + 0.50 Rated speed rpm : 0.50 Tolerance mm : + 0.25 Rated speed rpm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50	- 4.0
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Rated speed rpm : 300 guide sleeve travel mm : 1.11 Tolerance mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 5 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.50 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 quide sleeve control lever	Rated speed rpm : 300 guide sleeve travel mm : 1.11 Tolerance mm : 4.00 Rated speed rpm : 1200 Tolerance mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50	11.65
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travel mm : 1.11 Tolerance mm : + 0.20 Rated speed rpm : 1200 Tolerance 1/min : + 15 Rated speed rpm : 6.17 Tolerance mm : 0.50 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 Rated speed rpm : 1330 quide sleeve control lever	travel mm : 1.11 rack travel mm : 4.00 Tolerance mm : + 0.20 Rated speed rpm : 1200 Rated speed rpm : 755 rack travel mm : + 0.50 guide sleeve rack travel mm : 0.50 Tolerance mm : + 0.25 Rated speed rpm : 1300 Rated speed rpm : 3.75 10erance mm : + 0.25 Rated speed rpm : 1330 10erance mm : + 0.25 Rated speed rpm : 1330 control lever position degree : 73.0 Tolerance mm : + 0.50 tolerance degree : + 4.0	- 5
Tolerance mm : + 0.20 Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 Rated speed rpm : 1330 Rated speed rpm : 1330 Guide sleeve Control lever	Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : 0.50 Rated speed rpm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : 480 guide sleeve travel mm : 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : 13.50 Tolerance mm : 4.0	/ 00
Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 Rated speed rpm : 1330 guide sleeve control lever	Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50	
Rated speed rpm : 755 guide sleeve travel mm : 0.50 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 Rated speed rpm : 1330 quide sleeve control lever	Rated speed rpm : 755 guide sleeve travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50	
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travel mm : 6.17 Tolerance mm : + 0.50 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 LOW IDLE Rated speed rpm : 1330 quide sleeve control lever	travel mm : 6.17 Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50	0.50
Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve control lever	Tolerance mm : + 0.25 Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Rated speed rpm : 13.50 Control lever position degree : 73.0 tolerance degree : + 4.0	
Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 quide sleeve control lever	Rated speed rpm : 480 guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Control lever position degree : 73.0 tolerance degree : + 4.0	
guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve control lever	guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50	1300
guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 quide sleeve control lever	guide sleeve travel mm : 3.75 Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50	
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Tolerance mm : + 0.25	Tolerance mm : + 0.25 Rated speed rpm : 1330 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 LOW IDLE control lever position degree : 73.0 tolerance degree : + 4.0	
quide sleeve + control lever	guide sleeve control lever travel mm : 13.50 position degree : 73.0 Tolerance mm : + 0.50 tolerance degree : + 4.0	
quide sleeve + control lever	guide sleeve control lever travel mm : 13.50 position degree : 73.0 Tolerance mm : + 0.50 tolerance degree : + 4.0	
	travel mm : 13.50 position degree : 73.0 Tolerance mm : + 0.50 tolerance degree : + 4.0	
travel mm : 13.50 + position degree : 73.0	Tolerance mm : + 0.50 + tolerance degree : + 4.0	77. 0
	}	
Tolerance mm : + 0.50 + tolerance degree : + 4.0	† 	- 4.0
Catting maint w/aut burner ansing		lmnan annina
	,	umper spring
· · · · · · · · · · · · · · · · · · ·	GUIDE SLEEVE POSITION + Rated speed rpm : 300	300

Rated speed rpm : 300

CRT mm min.	: > 6.60
Testing:	
Rated speed rpm	: 350
rack travel mm	4.90
Tolerance mm	: + 0.10
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm	: 1050
rack travel mm	: 12.65
Tolerance mm	: + 0.05
Rated speed rpm	: 500
rack travel man	: 500 : 10.00
Tolerance mm	: +- 0.10
いいしてい 口川 いて (保川	
Rated speed rpm	
rack travel mm	: 11.80
Tolerance mm	: ← 0.10
Rated speed rpm	: 950
rack travel mm	: 12.20
Tolerance mm	: ← 0.10
Dated amond non	: 600
Rated speed rpm rack travel mms	: 10.80
Tolerance mm	: +- 0.20
TOTAL GLICE IN	0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 1050
Pressure hPa	: 1600
rack travel mm	: 12.65
Tolerance mm	: ← 0.05
Rated speed rpm	: 1050
Pressure hPa	: -
rack travel mm	: 8.30
Tolerance mm	: +- 0.20
MEASUREMENT	
Rated speed rpm	: 1050
Pressure hPa	: 1050
rack travel mm	
Tolerance mm	: 11.80 : ← 0.05
Proceure hPs	• 700
Pressure hPa rack travel mm	: 700 : 9.50

Tolerance mm	: ← 0.20
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 270
Check speed 1/min Check	: > 80
speed 1/min	: < 290
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa	: 1600
Rated speed rpm Del. quantity	: 1600 : 500
cm3/1000 strokes Tolerance	: 280.0
cm3/1000 strokes Check tolerance	: ← 3.0
cm3/1000s.	: ← 6.0
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 800 : 11.80 : + 0.10 : 299.0 : + 3.0 : + 6.0
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 550
cm3/1000 strokes Tolerance	: 209.0
cm3/1000 strokes Check tolerance cm3/1000s.	; + 1.0 ; + 4.0
Spreed Tolerance	4.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
STARTING FUEL DEL	IVERY

Rated speed rpm : 100 rack travel mm : 10.00 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm 350 4.90 Rack travel in mm : : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 28.01.98 : ISO 4113

Combination No. : 0 402 736 825

Injection pump

Pump designation : PES6P120A720/3LS7251

EP type number : 0 412 726 860

Governor

Governer design. : RQV300...1000PA962

: -8K

Governer no.

: 0 421 815 303

Cust. part No. : 3-7206

Customer-spec. information Customer : MAN

Motor

: D2866LF09 : 309.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 089

Outside diameter: 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ___

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.85 Prestroke mm : +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 15.50

: **←** 0.50 Tolerance mm

: 6-2-4-1-5-Firing order

: 3

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50

Check

tolerance 'NW : **←** 0.75

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm	: 900	+ g	uide sleeve	
		+ t	ravel mm	: 6.01
		+ To	olerance mm	: +- 0.25
Rack travel in mm	: 13.95	+		
Tolerance mm	: ← 0.05		ated speed rpm	: 301
			uide sleeve	
Del. quantity		ą.	ravel mm	: 3.26
cm3/1000 strokes	: 296.0	† To	olerance mm	: +- 0.25
		+		
Tolerance			ated speed rpm	: 351
cm3/1000 strokes	: ← 1.0		uide sleeve	
· · · ·			ravel mm	: 3.96
Check tolerance		† 10	olerance mm	: +- 0.25
cm3/1000s.	: ← 4.0	† ,		/70
o. 1			ated speed rpm	: 470
Spreed			uide sleeve	. / 70
Talasana			ravel mm	: 4.39 : +- 0.25
Tolerance	. 10.0	† '	olerance mm	: + 0.25
cm3/1000 strokes	. 10.0	† 5.	ated speed rpm	: 1186
Check tolerance			ated speed rpm uide sleeve	: 1100
cm3/1000s.	: 14.0		ravel mm	: 12.00
CHD7 (0005.	. 14.0	•	olerance mm	: + 0.25
		I '	ocerance min	0.2
		↓ R:	ated speed rpm	: 1280
Rated speed rpm	: 300		uide sleeve	. 1200
macca opeca i più	. 555		ravel mm	: 13.50
Rack travel in mm	: 5.20	· ·	olerance mm	: +- 0.50
Tolerance mm	: ← 0.10	1		
Del. quantity		↓ -		
cm3/1000 strokes	: 32.0	<u> </u>	UIDE SLEEVE POSI	TION
Tolerance		+		
cm3/1000 strokes	: ← 3.0	+		
Check tolerance		+ co	ontrol lever	
cm3/1000s.	: +- 6.0		osition degree	: - 1
Spreed		+ Ra	ated speed rpm	: 1130
Tolerance		+		
cm3/1000 strokes	: 8.0		ack travel in mm	
Check tolerance		+ 10	olerance mm	: ← 2.00
cm3/1000s.	: 12.0	†		
		t <u> </u>		V 17 5111 1012 072
/D)	IESTIAL DUM	† •	JLL LOAD DELIVER	Y AT FULL LOAD STOP
(B) SETTING OF IN	JECITON POMP	† "	-4-4	: 900
WITH GOVERNOR			ated speed rpm neroid pressure	: 900
_			nero la pressure Pa	: 1200
GUIDE SLEEVE TRAVI	=1		el. quantity	. 1200
GOIDE SECENE INVAL	C.L.		n3/1000 strokes	: 296.0
Rated speed rpm	: 1055		olerance	. 270.0
guide sleeve	. 1000		n3/1000 strokes	: ← 1.0
travel mm	: 9.19		neck tolerance	
Tolerance mm	: + 0.25		m3/1000s.	: +- 4.0
		1	ore e d	·
Rated speed rpm	: 300		olerance	
guide sleeve			n3/1000 strokes	: 10.0
travel mm	: 3.41		neck tolerance	
Tolerance mm	: ← 0.25		n3/1000s.	: 14.0
		+		
Rated speed rpm	: 780	+		

CONTROL LEVER		+	
control lever		ANEROID/ALTITUDE	
position degree	: 291.0	+ COMPENSATOR TEST	
tolerance degree		+	
RATED SPEED		SETTING	
ack travel mm	: 12.40	+	
ed speed rpm	: 1045 _	Rated speed rpm Pressure hPa	: 900
erance 1/min	: ← 5	+ Pressure hPa	: 1200
		+ rack travel mm	: 13.95
travel mm	: 4.00	+ Tolerance mm	: ← 0.05
speed rpm	: +- 15	T Batad speed non	. 000
ice i/min	: — 15	Pressure bbs	. 900
യെ പ്ര	• 0.50	rack travel mm	• 9 10
Ce mm	· + 0.50	Rated speed rpm Pressure hPa rack travel mm Tolerance mm	· + 0.10
eed mone	: 0.50 : +- 0.50 : 1300	- TOTAL PARTIES	0.10
	. ,000	MEASUREMENT	
		Rated speed rpm	: 900
		T Procesure And	י לכל
		T reck travel mm	• 12 00
		Pressure hPa rack travel mm Tolerance mm	· + 0.20
.ever		T TOTAL GIVE IN	0.20
	: 247.0	Pressure hPa	: 220
degree	: + 4.0	+ rack travel name	: 9.45
		+ rack travel mm + Tolerance mm	: +- 0.05
oint w/o	ut bumper spring	+	
eed rpm	: 200	Start interlock	
n	: > 7.30	I Pated speed rom	• > 100
	. > 7.50	+ Rated speed rpm + Rated speed rpm	• < 240
		+	
	700	+ Check	
eed rom	: 300	+ speed 1/min	: > 80
	: 5.20	+ Check	240
	: ← 0.10	speed 1/min	: < 200
ed rpm	: 300	FUEL DELIVERY CHA	ARACTERISTICS
E CONTROL		†	
CONTROL speed rpm	: 900	Aneroid pressure	
volume	· 13 05	+ hPa	: 1200
velimii Ama	: 13.95 : + 0.05	Rated speed rpm	1000
R.17		+ Del. quantity	. 1000
ed rpm	: 1000	+ cm3/1000 strokes	: 269.0
Lame		∔ Tolerance	
mm	: ← 0.10	+ cm3/1000 strokes	: ← 3.0
		+ Check tolerance + cm3/1000s.	
speed rpm	: 750 : 13.40 : +- 0.10	+ cm3/1000s.	: +- 6.0
ravel mm	: 13.40	+	
nce man	: ← 0.10	†	······································
		+ Aneroid pressure	
peed rpm	; / / / / / / / / / / 	+ hPa	: 1200

Rated speed rpm	:		750
rack travel am	:		13.40
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/1000 strokes	:		287.0
Tolerance			
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000S.	:	+-	6.0

Aneroid pressure		
hPa	:	1200
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	:	109.0
Tolerance		
cm3/1000 strokes	:	← 5.0
Check tolerance		
cm3/1000s.	:	+- 8.0
Spreed		
Tolerance		
cm3/1000 strokes	:	10.0
Check tolerance		
cm3/1000s.	:	14.0

Aneroid pressure			
hPa	:		
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		169.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0

STARTING FUEL DELIVERY

Del. quantity cm3/1000 strokes	:	210.0
Tolerance cm3/1000 strokes Check tolerance	: +-	10.0
cm3/1000s.	: +-	14.0

	TNIE
LUW	IDLE

Rated speed rpm	:	300
Rack travel in mma Tolerance mma	: : +-	5.20 0.10
Del. quantity cm3/1000 strokes	:	32.0

Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.02.97 : ISO 4113

Combination No. : 9 400 087 503

Injection pump

Pump designation : PES5P120A720LS7280

: 9 400 087 087 EP type number

Governor

Governer design. : RQV300...950PA1263

: 9 420 080 392 Governer no.

Cust. part No. : 0270740102

Customer-spec. information

Customer : MBB

: OM 449 LA-EUROII Motor.

Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line

Test oil inlet

temp. °C 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 : 1000 x length mam

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.65 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

Tolerance : + 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 13.45

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 253.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 16.50 Tolerance mm : + 1.30
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.30	Rated speed rpm : 600
Tolerance mm : + 0.10	+ Aneroid pressure + hPa : 1200
Del. quantity cm3/1900 strokes : 12.0	+ Del. quantity
Tolerance	- cm3/1000 strokes : 253.0
cm3/1000 strokes : + 3.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	† Check tolerance
Spreed	+ cm3/1000s. : +- 4.0
Tolerance	† Spreed
cm3/1000 strokes : 8.0	+ Tolerance
Check tolerance cm3/1000s. : 12.0	+ cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	Check tolerance cm3/1000s. : 9.0
	T CMD/10005. : 9.0
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	
	+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
GOINE OFFERE HOAFF	position degree : 52.0
Rated speed rom : 700	tolerance degree : + 4.0
guide sleeve	
travel mm : 5.45	+ control lever
Tolerance mm : + 0.25	position degree : 117.0
	+ tolerance degree : +- 4.0
Rated speed rpm : 1050	†
guide steeve	+ RATED SPEED
travel mm : 7.80	+ rack travel mm : 12.10
Tolerance mm : + 0.10	Rated speed rpm : 1005 Tolerance 1/min : +- 5
Rated speed rpm : 300	1 toterance t/min : +- 3
guide sleeve	Track travel mm : 4.00
travel mm : 0.75	Rated speed rpm : 1125
Tolerance mm : + 0.25	+ Tolerance 1/min : + 15
	+
Rated speed rpm : 500	rack travel mm : 0.50
guide sleeve	+ Tolerance mm : +- 0.50
travel mm : 3.55	+ Rated speed rpm : 1220
Tolerance mm : + 0.25	†
Rated speed rpm : 1165	Ī
guide sleeve	
travel mm : 9.45	LOW IDLE
Tolerance mm : + 0.25	
	+
GUIDE SLEEVE POSITION	+ position degree : 83.0
	tolerance degree : +- 4.0
control lever	t control lever
position degree : - 1	position degree : 18.0
Rated speed rpm : 1120	tolerance degree : +- 4.0
nated speed this . Itel	i costa dillo dogi co i i 4.0

F04

Setting point w/out bumper spring	+ Pressure hPa : 500 + rack travel mm : 0.60
Rated speed rpm : 100	Tolerance mm : + 0.10
CRT mean main. : > 8.00	Start interlock
Testing:	Rated speed rpm : > 100 Rated speed rpm : < 220
Rated speed rpm : 300	+
rack travel mm : 5.30	+ Check
Tolerance mm : + 0.10	+ speed 1/min : > 80 + Check
Rated speed rpm : 325	speed 1/min : < 240
TORQUE CONTROL	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 600	+
rack travel mm : 13.45 Tolerance mm : + 0.05	
Tolerance mm : +- 0.05	+ Aneroid pressure
	+ hPa : 1200
Rated speed rpm : 950	Rated speed rpm : 950
rack travel mm : 13.15	+ Del. quantity
Tolerance mm : ← 0.05	cm3/1000 strokes : 234.0 Tolerance
Rated speed rpm : 900 rack travel mm : 13.15	+ cm3/1000 strokes : +- 2.0
rack travel mm : 13.15 Tolerance mm : + 0.05	+ Check tolerance
Tolerance mm : +- U.U5	- cm3/1000s. : + 5.0 - Spreed
Rated speed rpm : 750	+ Tolerance
rack travel mm : 13.45	+ cm3/1000 strokes : 8.0
Tolerance mm : + 0.05	+ Check tolerance + cm3/1000s. : 12.0
Pated speed rom · 800	T (1110) 100005: 1 (2.0)
Rated speed rpm : 800 rack travel mm : 13.50	
Tolerance mm : + 0.10	rack travel mm · 13 15
Total Carlo IRI	rack travel mm : 13.15 Tolerance mm : + 0.05
ANEROID/ALTITUDE	
COMPENSATOR TEST	+ Anercid pressure
	+ hPa : 1200
	Rated speed rpm : 750
SETTING	+ Del. quantity
Data d award www . 500	cm3/1000 strokes : 246.0
Rated speed rpm : 500 Pressure hPa : 1200	<pre>+ Tolerance + cm3/1000 strokes : +- 2.0</pre>
	Check tolerance
rack travel mm : 13.45 Tolerance mm : +- 0.05	- cm3/1000s. : + 5.0
Toterance min . ** 0.05	Spreed
Rated speed rpm : 500	+ Tolerance
Pressure hPa : -	+ cm3/1000 strokes : 8.0
	+ Check tolerance
MEASUREMENT	cm3/1000s. : 12.0
Rated speed rpm : 500	+
	+ Aneroid pressure
Pressure hPa : 700	+ hPa :
rack travel mm : 1.75	Rated speed rpm : 500
Tolerance mma : +- 0.15	+ Del. quantity + cm3/1000 strokes : 143.0

Tolerance cm3/1000 strokes	: +-	1.0
Check tolerance cm3/1000s. Spreed	: + -	4.0
Tolerance cm3/1000 strokes	:	5.0
Check tolerance cm3/1000s.	:	9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 262.0 Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm 300 5.30 Rack travel in mm : : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 12.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.98 Test oil : ISO 4113

Combination No. : F 000 409 005

Injection pump

Pump designation : PES6P110A720RS3396

EP type number : F 000 400 004

Governor

Governer design. : RQV300...1300PA1379K

Governer no. : F 000 420 504

Cust. part No. : 0280742402

Customer-spec. information

Customer : MBB

Motor : OMS66LA-EURO II

Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 21.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.00 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 115.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance		- Tolerance
cm3/1000 strokes	: 4.0	- cm3/1000 strokes : +- 1.0
		- Check tolerance
Check tolerance	-	+ cm3/1000s. : + 4.0
cm3/1000s.	: 7.5	Spreed
	-	Tolerance
		cm3/1000 strokes : 4.0
	-	Check tolerance
Rated speed rpm	: 300	- cm3/1000s. : 7.5
Maran opera (p.)	•	
Rack travel in m	a: 5.60 -	
Tolerance mm		
Del. quantity		CONTROL LEVER
cm3/1000 strokes	: 10.0	
Tolerance		control lever
cm3/1000 strokes	· + 25	position degree : 110.0
Check tolerance		tolerance degree : + 4.0
cm3/1000s.	: +- 5.0	L toterance degree 4.0
	. —).0	T RATED SPEED
Spreed Tolerance	•	rack travel mm : 12.90
	: 4.5	
cm3/1000 strokes	7 4.5	+ Rated speed rpm : 1340 - Tolerance 1/min : +- 5
Check tolerance	. 75	Tolerance 1/min : +- 5
cm3/1000s.	: 7.5	
	•	rack travel mm : 4.00
(-)		Rated speed rpm : 1485
(B) SETTING OF I	NIECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	•	†
	•	rack travel mm : 0.50
	······	Tolerance mm : + 0.50
GUIDE SLEEVE TRAN	v'EL -	Rated speed rpm : 1600
		†
Rated speed rpm	: 1356	t
guide sleeve	•	t
travel mm	: 9.16	
Tolerance mm	: + 0.10	- LOW IDLE
		†
Rated speed rpm	: 300	t
guide sleeve		control lever
travel mon	: 1.45	position degree : 65.0
Tolerance mm	: + 0.25	tolerance degree : + 4.0
		†
Rated speed rpm	: 530	Setting point w/out bumper spring
guide sleeve	•	+
guide sleeve travel mm Tolerance mm	: 4.01 : + 0.25	Rated speed rpm : 200
Tolerance mm	: ← 0.25	+
		CRT mm min. :> 7.00
Rated speed rpm	: 1720	+
quide sleeve	•	Testing:
travel mm	: 13.50	+
Tolerance mm	: + 0.25	Rated speed rpm : 300
	•	rack travel mm : 5.60
		Tolerance mm : +- 0.20
FULL LOAD DELIVE	RY AT FULL LOAD STOP	1
. JEE COM AFFIATI		Rated speed rpm : 425
Rated speed rpm	: 1300	T
Aneroid pressure		
hPa	: 1000	TORQUE CONTROL
	. 1000	Rated speed rpm : 1300
Del. quantity cm3/1000 strokes	. 115 5	rack travel mm · 1/. 00
LIND/ IUUU STrokes	. 117.5	rack travel mm : 14.00 Tolerance mm : +- 0.05
	•	
		•

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 0.05	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 2.0 : +- 5.0
rack travel mma Tolerance mma Rated speed rpm rack travel mma Tolerance mma	: 13.25 : + 0.05 : 1000 : 13.75	Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 13.25 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa	: 1000 : 13.00 : ← 0.05	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 104.0
MEASUREMENT Rated speed rpm	: 500	Aneroid pressure	• _
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 250 : 0.49 : ← 0.05 : 500 : 1.70 : ← 0.10	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 37.0
Start interlock Rated speed rpm Rated speed rpm	: > 100 : < 200	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Check speed 1/min Check speed 1/min	: > 80 : < 220	STARTING FUEL DEL Rated speed rpm rack travel mm	: 100 : 20.00
FUEL DELIVERY CHA	RACTERISTICS	Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: ← 1.00 : 83.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes		cm3/1000 strokes Check tolerance cm3/1000s.	: + 10.0 : + 14.0

LOW TILE

300 Rated speed rpm : Rack travel in mm : 5.60 : ← 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 10.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes: 4.5 Check tolerance cm3/1000s. 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.01.98 Edition Test oil : ISO 4113

Combination No. : F 000 409 102

Injection pump

Pump designation : PES6P120A720LS7257

: -11

EP type number : F 000 400 201

Governor

Governer design. : RQV300...950PA1242

Governer no. : 9 420 080 387

Cust. part No. : 0280743302

Customer-spec. information

Customer : 7488

: OM 447LA Euro II Motor

Power KW : 264.8

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. "C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

: 1 680 750 075 Test lines

Outside diameter: 8.0

x inside diameter: 3.0 : 1000 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.70 Tolerance mm : +- 0.05

Check

tolerance mm : + - 0.10

Rack travel in mm: 21.00

: 6-2-4-1-5-Firing order

: 3

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : + 0.75

BASIC SETTING

550 Rated speed rpm :

Rack travel in mm: 13.40

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 277.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

4.0

Spreed

Tolerance cm3/1000 strokes : 5.0	control lever
Check tolerance cm3/1000s. : 9.0	+ position degree : - 1 Rated speed rpm : 1120
	Rack travel in mm: 16.50 Tolerance mm: + 1.30
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.00	+
Tolerance mm : +- 0.10	+ Rated speed rpm : 550
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 7.5	hPa : 1300
Tolerance cm3/1000 strokes : +- 3.0	<pre></pre>
Check tolerance	Tolerance
cm3/1000s. : +- 6.0	cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0	+ Spreed
Check tolerance	+ Tolerance
cm3/1000s. : 12.0	+ cm3/1000 strokes : 5.0
	+ Check tolerance + cm3/1000S. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
GUIDE SLEEVE TRAVEL	+ CONTROL LEVER
	+ control lever
Rated speed rpm : 700	+ position degree : 115.0
guide sleeve travel mm : 4.55	tolerance degree : + 4.0
Tolerance ram : + 0.25	RATED SPEED
TOTAL CHARACTER CO. L.	+ rack travel mm : 12.10
Rated speed rpm : 1050	Rated speed rpm : 1025
guide sleeve	+ Tolerance 1/min : + 5
travel mm : 7.70	†
Tolerance mm : ← 0.10	+ rack travel mm : 4.00
Rated speed rpm : 300	+ Rated speed rpm : 1135 + Tolerance 1/min : +- 15
guide sleeve	Total dilice 1/Hills . (3)
travel mm : 0.75	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1230
Rated speed rpm : 500	+
guide sleeve	+
travel mm : 3.45	†
Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1165 guide sleeve	TOM INCE
travel mm : 9.55	+ control lever
Tolerance mm : + 0.25	position degree : 78.0tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring

Rated speed rpm

100

amin.	: > 8.00
••••	
3:	
eed rom	: 300
ravel mo	: 5.00
travel min ance ma	: ← 0.10
	. 725
i speed rpm	: 365
UE CONTROL	
ed speed rom	: 550
travel mm	: 13.40
erance ma	: +- 0.05
ed speed rpm	: 950
k travel mm	: 13.20
rance mm	
ed speed rpm	: 750
k travel mm	: 13.40
erance mm	: + 0.05
ed speed rpm	• 900
k travel mm	13.25
erance ma	: + 0.05
CI CHINCE INH	0.05
EDOTO / AL TITUDE	
HEROID/ALTITUDE	
MPENSATOR TEST	
TING	
ed speed rpm	: 500
essure hPa	
k travel mm	
lerance non	: ← 0.05
ed speed rpm	: 500
ssure hPa	: -
UREMENT	
ed speed rpm	• 500
en sheen this	.)00
	: 800
una EDa	
	2.40
travel mm	
travel mm	: +- 0.15
ravel mm nce mm	
sure hPa travel mm rance mm sure hPa	: 550
travel mm ance mm ure hPa	: 550
travel mm ance mm ure hPa	: 550
travel mm ance mm	: 550
travel mm ance mm ure hPa travel mm ance mm	: 550
ravel mm nce mm re hPa	: 550
lmin Pa lmin	: 550

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STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 248.5

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 300

5.00 Rack travel in mm : Tolerance mm : **←** 0.10

Del. quantity

7.5 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.01.98 Test oil : ISO 4113

Combination No. : F 000 409 888

Injection pump

Pump designation: PES5P120A

EP type number : 0

Covernor

Governer design. : RQV300...950

Governer no. : 0

Cust. part No. :

Customer-spec. information Customer : MBB

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter: 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.70 : **←** 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 21.00

Firing order : 1- 3- 5- 4- 2

Phasina : 0-72-144-216-288

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm: 13.55 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 271.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : **←** 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

: 9.0

Rated speed rpm	: 300
Rack travel in ma	
Tolerance mm	: ← 0.10
Del. quantity cm3/1000 strokes	: 19.5
Tolerance	• • • • • • • • • • • • • • • • • • • •
cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s.	: +- 6.0
Spreed	0.0
Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
(B) SETTING OF IN	WECTION PUMP
WITH GOVERNOR	
GUIDE SLEEVE TRAV	/EL
Datad anand an-	: 700
Rated speed rpm guide sleeve	: 700
travel mm	: 5.45
Tolerance mm	: ← 0.25
Rated speed rpm	: 1050
guide sleeve	. 1050
travel mm	: 7.80
Tolerance mm	: ← 0.10
Rated speed rpm	: 3 0 0
guide sleeve	
travel mm Tolerance mm	: 0.75 : + 0.25
TO CE CONTICE THE	. — 0.23
Rated speed rpm	: 500
guide sleeve travel mm	: 3.55
Tolerance mm	: + 0.25
	4445
Rated speed rpm	: 1165
guide sleeve travel mm	: 9.45
Tolerance mm	: ← 0.25
GUIDE SLEEVE POSI	TION
control lever	
position degree	: -1
Rated speed rpm	: 1120

FULL LOAD DELIVERY	AT FULL LOAD STOP
Rated speed rpm : Aneroid pressure	950
hPa : Del. quantity	1500
cm3/1000 strokes :	271.0
Tolerance cm3/1000 strokes :	+ 1.0
Check tolerance cm3/1000s.	+- 4.0
Spreed	4.0
Tolerance cm3/1000 strokes :	5.0
Check tolerance cm3/1000s.	9.0
Cm5/10003. :	7.0
CONTROL LEVER	
control lever position degree :	121.0
tolerance degree :	+ 6.0
RATED SPEED	
rack travel mm : Rated speed rpm :	12.55 1035
Tolerance 1/min :	← 5
rack travel mm :	4.00
Rated speed rpm : Tolerance 1/min :	1140 +- 15
rack travel mm : Tolerance mm :	0.50 +- 0.50
Rated speed rpm :	1250
LOW IDLE	
LOW IDEE	
control lever	
position degree : tolerance degree :	79.0 +- 6.0
Setting point w/out	· · · · · · · · · · · · · · · · · · ·
Rated speed rpm :	100
CRT mm min. :	> 10.00
Testing:	
Rated speed rpm :	300
rack travel mm :	6.20

Rack travel in mm : 16.50 Tolerance mm : + 1.30

Tolerance mm	: ← 0.10	†		
Rated speed rpm	: 325	‡	FUEL DELIVERY CHA	RACTERISTICS
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm			Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 550
Rated speed rpm rack travel mm Tolerance mm	: 550 : 13.95 : ← 0.05	†	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm	: 750 : 13.95	. ‡	cm3/1000s. Spreed Tolerance	: + 5.0
Tolerance mm Rated speed rpm rack travel mm		† † 	cm3/1000 strokes Check tolerance cm3/1009s.	: 8.0 : 12.9
ANEROID/ALTITUDE	: ← 0.05	 	Aneroid pressure hPa Rated speed rpm	
COMPENSATOR TEST SETTING		‡	rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.55 : ← 0.05	<u>†</u> †	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 2.0 : +- 5.0
Rated speed rpm Pressure hPa		T + +	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
MEASUREMENT	_	‡		
Rated speed rpm Pressure hPa rack travel mm	: 500 : 500 : 1.10	† † †	Aneroid pressure hPa Rated speed rpm Del. quantity	
Tolerance mm Pressure hPa	: + 0.15 : 900 _	‡	cm3/1000 strokes Tolerance cm3/1000 strokes	
rack travel mm Tolerance mm	: 2.65 : + 0.10		Check tolerance cm3/1000s. Spreed Tolerance	: ← 5.0
Start interlock		Ţ	cm3/1000 strokes Check tolerance	
Rated speed rpm Rated speed rpm		‡	cm3/1000s.	: 12.0
Check speed 1/min Check	: > 80	†	Aneroid pressure hPa Rated speed rpm	: - : 500
speed 1/min	: < 230	‡	Del. quantity cm3/1000 strokes	: 143.0

Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance

Check tolerance cm3/1000s. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 260.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance

cm3/1000s. : + 14.0

LOW IDLE

Rack travel in man: 5.20
Tolerance mm : + 0.10
Del. quantity

cm3/1000 strokes : 19.5 Tolerance

cm3/1000 strokes : \(\pi\) 3.0 Check tolerance cm3/1000s. : \(\ph\) 6.0 Spreed Tolerance

cm3/1000 strokes : 8.0 Sheck tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 04.02.98 : ISO 4113

Combination No. : F 002 AUZ 007

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0c881R

Governer no. : F 002 A20 207

Cust. part No. : 3928597

Customer-spec. information Customer : CUMMINS

Motor

: 6BTA

Power KW

: 122.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: **←** 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check : +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50

Tolerance

: **←** 0.10

Check

: + 0.29

: 1

Barrel no.

BASIC SETTING

tolerance *NW

Rated speed rpm : 1100

Rack travel in mm: 12.40

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Tolerance mm	: ← 0.05 <u>†</u>	Rated speed rpm : 1100 Aneroid pressure
Del. quantity cm3/1000 strokes	: 109.9	hPa : 1200 Del. quantity
	<u> </u>	cm3/1000 strokes : 109.9
Tolerance cm3/1000 strokes	: ← 1.0	Tolerance : +- 1.0
Of a -1 . A - 1	<u> </u>	Check tolerance
Check tolerance cm3/1000s.	: ← 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	I	cm3/1000 strokes : 4.0
opi cca	+	Check tolerance
Tolerance cm3/1000 strokes	: 4.0	cm3/1000s. : 6.5
Check tolerance		
cm3/1000s.	: 6.5	CONTROL LEVER
	I	control lever
	+	position degree : 100.0
Rated speed rpm	: 485	tolerance degree : + 4.0
Onale Assessed Action	. 530	DATED COPED
Rack travel in mm Tolerance mm		RATED SPEED rack travel mm : 11.40
Del. quantity	T = 00	Rated speed rpm : 1155
cm3/1000 strokes	: 21.5	Tolerance 1/min : + 5
Tolerance		rocer differ that it is
cm3/1000 strokes	: + 2.0	rack travel mm : 6.50
Check tolerance		Rated speed rpm : 1215
cm3/1000s.	: + 4.5	Tolerance 1/min : +- 5
Spreed	+	
Tolerance	+	rack travel mm : 0.85
cm3/1000 strokes	: 6.0 +	Tolerance mm : +- 0.55
Check tolerance	+	Rated speed rpm : 1400
cm3/1000s.	: 8.0 +	mode Americal man and 4 50
	Ť	rack travel mm : 6.50 Rated speed rpm : 1215
(B) SETTING OF IN	IECTION PIMP	Tolerance 1/min : + 15
WITH GOVERNOR		Total alice Triain
CUIDE OF EENE POOT	TION	LOW IDLE
GUIDE SLEEVE POSIT	TUN T	FOM INCE
control lever	1	control lever
position degree	: FREE	position degree : 80.0
Rated speed rpm		tolerance degree : + 4.0
Rack travel in mm	: 0.50	Control lever difference
Tolerance mm	: + 0.20	Grad : 20.0
_	+	tolerance degree : +- 6.0
governor spring	+	0.442
pre-tension	. 7.00	Setting point w/out bumper spring
click setting x	: 3.00	Rated speed rpm : 485
	†	
		Pack that (a)
ENL LOAD DELTUED	Y AT FULL LOAD STOP	rack travel mm : 4.70 Tolerance mm : +- 0.10

Rated speed rpm	: 100	+ Del. quantity	
pood , pod		cm3/1000 strokes : 1	29.0
T mm min.	; > 19.00	+ Tolerance	
		cm3/1000 strokes : +-	2.0
sting:		- Check tolerance	
~~···••		cm3/1000s. : +-	4.0
ted speed rpm	: 485	1	
ck travel mm			
oterance mm	: ← 0.10	Aneroid pressure	
ACCORD MI		+ hPa :	_
ack travel mm	: 2.00		00
		T Refer Speed right : 3	UU
ated speed rpm		Del. quantity	02 E
olerance 1/min	: ← 30		82.5
		† Tolerance	4.0
		cm3/1000 strokes : +-	7.0
ORQUE CONTROL	4485	+ Check tolerance	7 •
ated speed rpm	: 1100	+ cm3/1000s. : +-	3.0
ack travel mm	: 12.40	+	
oterance ma	: ← 0.05	Ļ	
ated speed rpm	: 8000	→ STARTING FUEL DELIVERY	
ack travel mm	: 13.60	1	
olerance mm	: ← 0.20	Rated speed rpm : 1	00
			0.50
		+ rack travel mm : 2 	0.50
NEROID/ALTITUDE	_	Del. quantity	0.50
		- cm3/1000 strokes : 1	20 5
OMPENSATOR TEST			د
		+ Tolerance	40.0
		- cm3/1000 strokes : +-	10.0
etting		- Check tolerance	
		+ cm3/1000s. : +-	15.0
ated speed rpm	: 5 0 0	+	
ressure hPa	: 1200	 	
		1	
Rated speed rpm	: 500		
ressure hPa	: -	LOW IDLE	
ack travel mm	9.90	1	
rack travet mm Folerance mm	: ← 0.20	Rated speed rpm : 4	8 5
OCCIONICE IN	0.20	T Mateu speed i pin . 4	~ J
CACHDEMENT		Rack travel in man:	5.20
MEASUREMENT			
	500	Tolerance mm : +-	U. 1U
ated speed rpm	: 500	+ Del. quantity	
		1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21.5
ressure hPa	: 700	† Tolerance	
ack travel mm	: 12.30	- cm3/1000 strokes : +-	2.0
oterance mm	: ← 0.20	+ Check tolerance	
		cm3/1000s. : +-	4.5
ressure hPa	: 500	Spreed	
ressure nra ack travel mm	: 10.80	Tolerance	
			6.0
olerance mm	: ← 0.20		0.0
		+ Check tolerance	0.0
		+ cm3/1000s. :	8.0
JEL DELIVERY CHA	ARACTERISTICS		
neroid pressure			
Pa	: 1200	Find of test specification	n sheet
ated speed rom			,
irea sheea ihu	. 300	Ţ	
		and the second s	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.01.98 Test oil : ISO 4113

Combination No. : 0 402 746 613

Injection pump

Pump designation : PES6P120A320RS7372

EP type number : 0 412 726 940

Governor

Governer design. : RQV250...1250PA1283K

Governer no. : 0 421 815 516

Cust. part No. : 3866785

Customer—spec. information Customer : CDC Motor : 68TA Power KW : 164.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 11.00 Tolerance : + 0.50

Check

tolerance °NW : ← 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.05
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 129.5

F22

	+	Rated speed rpm : 1860
Tolerance	+	guide sleeve
cm3/1000 strokes	: ← 1.0 +	travel mm : 13.50
		Tolerance m_0 : \leftarrow 0.50
Check tolerance	t / 0	
cm3/1000s.	: ← 4.0 †	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	I	FOLE LOAD DELIVER! AT FOLE LOAD STOP
opi cca		Rated speed rpm : 1250
Tolerance	1	Aneroid pressure
cm3/1000 strokes	: 8.0	hPa : 900
	+	Del. quantity
Check tolerance	†	cm3/1000 strokes : 129.5
cm3/1000s.	: 12.0	Tolerance
		cm3/1000 strokes : +- 1.0 Check tolerance
	· I	cm3/1000s. : +- 4.0
Rated speed rpm	: 300	Spreed
opved (Ma	<u> </u>	Tolerance
Rack travel in mm		cia3/1000 strokes : 8.0
	: ← 0.20 +	Check tolerance
Del. quantity	+	cm3/1000s. : 12.0
cm3/1000 strokes	: 23.0	
Tolerance cm3/1000 strokes	· 30	
Check tolerance	Ţ - 3.0	CONTROL LEVER
cm3/1000s.	: + 5.0 ¹	CONTINUE ELYCIN
Spreed	<u> </u>	control lever
Tolerance	+	position degree : 114.0
cm3/1000 strokes	: 5.0	tolerance degree : + 4.0
Check tolerance	+	
cm3/1000s.	: 8.0	RATED SPEED
	Ť	rack travel mm : 11.00 Rated speed rpm : 1335
(B) SETTING OF INJ	IFCTION PIMP $oxed{ extstyle I}$	Tolerance 1/min : +- 5
WITH GOVERNOR	+	Total and Thirm 1
W2711 00 (0) 11 11 11 11 11 11 11 11 11 11 11 11 11	4	rack travel mm : 4.00
		Rated speed rpm : 1500
GUIDE SLEEVE TRAVE	iL +	Tolerance 1/min : +- 15
	4705	0.50
Rated speed rpm	; 1303	rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm	: 7.93	Rated speed rpm : 1635
Tolerance mm	: + 0.15	Hatoa apaga ipin i 1000
00' 31 100 100	<u> </u>	
Rated speed rpm	: 275	
guide sleeve	<u>†</u>	
travel mm	: 1.39	LOW IDLE
Tolerance mm	: +- 0.20	
Rated speed rpm	: 864	control lever
guide sleeve	· ~ I	position degree : 76.0
travel mm	: 5.36	tolerance degree : + 4.0
Tolerance mm	: ← 0.25	
	+	Control lever difference
11mm	: 480 +	Grad : 38.0
guide steeve	. _{7.10} †	tolerance degree : +- 6.0
travel mm	: 3.18 : + 0.25	Setting point w/out bumper spring
Tolerance mm	0.2	setting both wyour pumper spring
	т	

Rated speed rpm	: 275	-
CRT mm min.	: > 8.20	-
Testing:	‡	•
Rated speed rpm rack travel mm Tolerance mm		- - -
Rated speed rpm	: 450	-
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1250 : 12.05 : + 0.05	• • •
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.80 : + 0.10	-
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.00 : + 0.10	• •
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.40 : ← 0.20	- - -
ANEROID/ALTITUDE COMPENSATOR TEST		- - -
SETTING		-
Rated speed rpm Pressure hPa		-
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1000 : - : 10.00 : + 0.20	- - -
MEASUREMENT		-
Rated speed rpm	: 1250	-
Pressure hPa rack travel mm Tolerance mm	: 550 : 11.10 : + 0.20	- - -
Pressure hPa rack travel mm Tolerance mm	: 265 : 10.30 : + 0.20	-
Start interlock		-

Rated speed rpm Rated speed rpm	: > 100 : < 250	
Check	. > 00	
speed 1/min Check	: > 80	
speed 1/min	: < 260	
FUEL DELIVERY CHA	RACTERISTICS	_
Aneroid pressure		
hPa	: 900	
Rated speed rpm	: 900	
Del. quantity cm3/1000 strokes	: 132.0	
Tolerance	. 132.0	
cm3/1000 strokes	: +- 3.0	
Check tolerance		
cm3/1000s. Spreed	: +- 6.0	
Tolerance		
cm3/1000 strokes	: 8.0	
Check tolerance cm3/1000s.	: 12.0	
rack travel mm	: 12.00	
Tolerance mm	: +- 0.10	
Aneroid pressure		
hPa	: -	
Rated speed rpm	: 1000	
Del. quantity cm3/1000 strokes	: 93.5	
Tolerance	. 73.3	
cm3/1000 strokes	: + 1.0	
Check tolerance	7.0	
cm3/1000S.	: + 3.0	
STARTING FUEL DEL	TVFRY	
Rated speed rpm	: 100	
rack travel mm Tolerance mm	: 21.00 : +- 0.50	
Del. quantity	0.50	
cm3/1000 strokes	: 185.0	
Tolerance		
Tolerance cm3/1000 strokes		
Tolerance		
Tolerance cm3/1000 strokes Check tolerance	: +- 20.0	
Tolerance cm3/1900 strokes Check tolerance	: +- 20.0	
Tolerance cm3/1000 strokes Check tolerance	: +- 20.0	_

Rated speed rpm	:	300
Rack travel in mm Tolerance mm Del. quantity	: +	7.40 - 0.20
cm3/1000 strokes Tolerance	:	23.0
cm3/1000 strokes Check tolerance	: -	⊢ 3.0
cm3/1000s. Spreed	: -	⊢ 5.0
Tolerance cm3/1000 strokes Check tolerance	:	5.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.02.98 Test oil : ISO 4113

Combination No. : 9 400 030 695

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250AUC825R

Governer no. : 9 420 034 701

Cust. part No. : 3928665

Customer—spec. information Customer : CDC Motor : 4BT3.9 Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 8.00 Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel nc. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 106.0

Tolerance cm3/1000 strokes	: + 1.0	Check tolerance cm3/1000S. : +- 3.0 Spreed
Check tolerance cm3/1000s.	: + 3.0	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Spreed		cm3/1000s. : 6.5
Talaman	†	
Tolerance cm3/1000 strokes	: 4.0	CONTROL LEVER
Check tolerance cm3/1000s.	: 6.5	control lever position degree : 114.0 tolerance degree : +- 4.0
Rated speed rpm	: 475	RATED SPEED rack travel mm : 11.50 Rated speed rpm : 1340
Rack travel in mm Tolerance mm	: 5.80 : + 0.10	Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes Tolerance	+	rack travel mm : 6.80 Rated speed rpm : 1405 Tolerance 1/min : +- 5
cm3/1000 strokes Check tolerance	: + 2.0	rack travel mm : 0.85
cm3/1000s. Spreed	: ← 4.5	Tolerance mm : +- 0.55 Rated speed rpm : 1500
Tolerance cm3/1000 strokes Check tolerance	: 5.0	rack travel mms : 6.80 Rated speed rpm : 1405
cm3/1000s.	: 8.0	Tolerance 1/min : + 15
(B) SETTING OF IN	JECTION PUMP	
WITH GOVERNOR	†	LOW IDLE
GUIDE SLEEVE POSIT	TION	control lever position degree : 87.0 tolerance degree : +- 4.0
control lever position degree	:-3	Control lever difference
Rated speed rpm	: 800	Grad : 27.0 tolerance degree : +- 4.0
Rack travel in mm Tolerance mm		Setting point w/out bumper spring
		Rated speed rpm : 475
FULL LOAD DELIVERY	Y AT FULL LOAD STOP	rack travel mm : 5.30 Tolerance mm : + 0.10
Rated speed rpm Aneroid pressure	+	Rated speed rpm : 100
hPa Del. quantity cm3/1000 strokes	: 1000	CRT mm min. : > 19.00
cm3/1000 strokes Tolerance cm3/1000 strokes	+	Testing:
CIRS/ TOOU SEPORES	1.0	Rated speed rpm : 475

rack travel mm Tolerance mm	: 5.80 : + 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1250 : 12.55 : + 0.05
Rated speed rpm	: 750
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1600
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.60 : + 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 60°C : 12.35 : ← 0.20
Pressure hPa rack travel mm: Tolerance mm	: 460 : 11.90 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 80.5 : ← 1.0 : ← 3.0

Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

LOW IDLE Rated speed rpm : 475 Rack travel in mm: 5.80 Tolerance mm: +-0.10Del. quantity cm3/1000 strokes : 20.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : **←** 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s.8.0

End of test specification sheet

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.02.98 Test oil : ISO 4113

Combination No. : 9 400 030 747

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1100A0C863R

6overner no. : 9 420 034 721

Cust. part No. : 3930152

Customer : CDC
Motor : 48T3.9
Power KW : 71.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.75
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 100.0

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Tolerance cm3/1000 strokes : +- 1.0	- Tolerance - cm3/1000 strokes : +- 1.0 - Check tolerance
Check tolerance cm3/1000s. : + 3.0	- cm3/1000s. : +- 3.0 - Spreed - Tolerance
Spreed	- cm3/1000 strokes : 4.0 - Check tolerance
Tolerance cm3/1000 strokes : 4.0	- cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	- CONTROL LEVER
Rated speed rpm : 475	- control lever - position degree : 99.0 - tolerance degree : +- 4.0
Rack travel in mm: 5.70 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 21.5	RATED SPEED rack travel mm : 10.75 Rated speed rpm : 1170 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed	rack travel mm : 6.00 Rated speed rpm : 1240 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 6.0 Check tolerance	- rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 1375
cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	- rack travel mm : 6.00 - Rated speed rom : 1240 - Tolerance 1/min : +- 15 -
GUIDE SLEEVE POSITION	- LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 87.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	- Control lever difference - Grad : 12.0 - tolerance degree : +- 4.0
governor spring pre-tension click setting x : 4.25	- - Setting point w/out bumper spring - - Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	- rack travel mm : 5.20 - Tolerance mm : + 0.10
Rated speed rpm : 1100 - Aneroid pressure	- Rated speed rpm : 100
hPa : 1000 -	- CRT mm min. :> 19.00
cm3/1000 strokes : 100.0	- Testing:

Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.70 : ← 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.75 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	Ţ
SETTING	
Rated speed rpm Pressure hPa	: 750 : 1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -
MEASUREMENT	
Rated speed rpm	: 750
Pressure hPa rack travel mm Tolerance mm	: 600 : 12.70 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 410 : 11.80 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 750
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 4.0
Aneroid pressure hPa	: -

Rated speed rpm Del. quantity	:	750
cm3/1000 strokes Tolerance	:	86.5
cm3/1000 strokes	: +-	1.0
Check tolerance cm3/1000s.	: +-	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	: +-	0.50
Del. quantity		
cm3/1000 strokes	:	120.5
Tolerance		
cm3/1000 strokes	: +-	10.0
Check tolerance		
cm3/1000s.	: +-	15.0

LOW IDLE

Rated speed rpm	:		475
Rack travel in mm	:		5.70
Tolerance mm	:	+-	0.10
Del. quantity cm3/1000 strokes	•		21.5
Tolerance	•		21.5
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	4.5
Spreed Tolerance			
cm3/1000 strokes	:		6.0
Check tolerance			
cm3/1000s.	:		8.0

End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 28.01.98 : ISO 4113

Combination No. : F 002 A0Z 062

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1100A2C942R

Governer no. : F 002 A20 243

Cust. part No. : 3930142

Customer-spec. information

Customer : CDC Motor : 4BNA3.9

Power KW

: 50.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

2.0

per values ____

REMARKS

BEGINNING OF DELIVERY

x inside diameter:

x length mm :

Test pressure bar : 17.0 Tolerance bar : 1.0

Prestroke mm : +-2.85 : **←** 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.25 Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

1 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.00 Tolerance mm : \leftarrow 0.05

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Del. quantity cm3/1000 strokes : 81.0	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 81.0 Tolerance
Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : + 3.0 + Spreed	cm3/1000s. : +- 3.0 Spreed Tolerance
Tolerance	cm3/1000 strokes : 3.5 Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
	control lever
Rated speed rpm : 475	position degree : 89.0 tolerance degree : +- 4.0
Rack travel in mm: 5.10	so ter ance degree . 1 4.0
Tolerance mm : + 0.10	RATED SPEED
Del. quantity +	rack travel mm : 8.20
cm3/1000 strokes : 13.5	Rated speed rpm : 1175
Tolerance + 2.0 +	Tolerance 1/min : + 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 4.5	Rated speed rpm : 1240
Spreed	·
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 3.5	Tolerance mm : + 0.55
Check tolerance + cm3/1000s. : 5.5 +	Rated speed rpm : 1350
CIID/ 10000.	rack travel mm : 4.00
+	Rated speed rpm : 1245
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : -3	position degree : 74.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : + 0.20 +	Grad : 15.0
governor spring +	tolerance degree : +- 6.0
pre-tension +	Setting point w/out bumper spring
click setting x : 4.50	
-	Rated speed rpm : 475
MILL LOAD DELTUENY AT FILL LOAD OTCO	rack travel mm : 4.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1100	Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel mm : 5.10
Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 9.00 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 9.70 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : \leftarrow 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm : 5.10 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 28.01.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 063

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1100A2C943R

Governer no. : F 002 A20 244

Cust. part No. : 3931397

Customer-spec. information Customer : CDC

Motor

: 4BNA3.9

Power KW

: 45.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

tempo. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter: 6.0

607

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : +- 1.0

Prestroke mm : + 2.85

: **←** 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mn: + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 : +- 0.50

Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance

Check

: + 0.50

tolerance *NW

: +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 8.20 Tolerance $m_{\rm m}$: \leftarrow 0.05

Sal municipal	1 Annual Annual
Del. quantity	+ Aneroid pressure + hPa : -
CHO/TODO SCIORES . 75.0	Del. quantity
Tolerance	cm3/1000 strokes : 75.0
cm3/1000 strokes : +- 1.0	Tolerance
	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance
cm3/1000s. : +- 3.0	+ cm3/1000s. : $+$ 3.0
	+ Spreed
Spreed	† Tolerance
Talamana	cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance : 6.0
CHO/ YOUG SCHOKES . 3.3	I (#67/6003 6.0
Check tolerance	I
cm3/1000s. : 6.0	
	CONTROL LEVER
	}
	- control lever
Rated speed rpm : 475	position degree : 88.0
	tolerance degree : + 4.0
Rack travel in min: 4.60	1 04750 00550
Tolerance mm : +- 0.10 Del. quantity	+ RATED SPEED + rack travel mm : 7.20
cm3/1000 strokes : 13.5	Rated speed rpm : 1175
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.0	10001 41100 17 11111
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1215
Spreed	Tolerance 1/min : + 5
Tolerance	†
cm3/1000 strokes : 3.5	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : ← 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1300
	T rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1215
WITH GOVERNOR	+ Tolerance 1/min : + 15
	+
	+
GUIDE SLEEVE POSITION	+
	+ LOW IDLE
and a Lavan	†
control lever position degree : - 3	t control lever
position degree : - 3 Rated speed rpm : 800	position degree : 73.0
rated speed (pill : 000	tolerance degree : + 4.0
Rack travel in mm: 0.50	+
Tolerance mm : + 0.20	+ Control Lever difference
· · · · · · · · · · · · · · · · · · ·	+ Grad : 15.0
governor spring	tolerance degree : +- 6.0
pre-tension	†
click setting x : 2.75	Setting point w/out bumper spring
	Total aread man : 175
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 475 + rack travel mm : 4.10
LOUR FOUND MEETAEKI AT LOUR FOUND STOR	+ Tolerance mm : + 0.10
Rated speed rpm : 1100	TO COT GOTTON THE TOTAL TH
Haran apour (pm 1 1100	Rated speed rpm : 100
	I serve altered that a see

CRT mes min. : > 19.00

Testing:

475 Rated speed rpm rack travel mm 4,60 Tolerance mm : +- 0.10

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 8.20 : **←** 0.05 Tolerance mm

600 Rated speed rpm : rack travel mm 9.20 : + 0.10Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm 600 Del. quantity

cm3/1000 strokes : 69.5 Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.: +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 20.50 rack travel mm : **←** 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

: **←** 15.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 475

4.60 Rack travel in mm : Tolerance mm : **←** 0.10

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 28.01.98 : ISO 4113

Combination No. : F 002 A0Z 064

Injection pump

Pump designation: PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1000A2C944R

Governer no. : F 002 A20 245

Cust. part No. : 3933090

Customer-spec. information Customer : CDC : 4BNA3.9 Motor : 40.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

G10

2.0 x inside diameter: x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing

Tolerance

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 6.50 : +- 0.50

Tolerance Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 8.05

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 70.5	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 70.5 Tolerance
Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : + 3.0 Spreed	cm3/1000s. : + 3.0 Spreed Tolerance
Tolerance	cm3/1000 strokes : 3.5 Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
	control lever
Rated speed rpm : 475	position degree : 87.0 tolerance degree : +- 4.0
Pack travel in mm : 4.75	•
Tolerance mm : + 0.10	RATED SPEED rack travel mm : 7.00
Del. quantity + cm3/1000 strokes : 13.5 +	rack travel mm : 7.00 Rated speed rpm : 1070
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1090
Spreed +	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1175
1	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1090
WITH GOVERNOR +	Tolerance 1/min : +- 15
<u> </u>	
GUIDE SLEEVE POSITION	LOW IDLE
control lever	
position degree : -3	control lever
Rated speed rpm : 800	position degree : 69.0
Rack travel in mm: 0.50	tolerance degree : +- 4.0
Tolerance mm : + 0.20	Control lever difference
Totel di ite imi	Grad : 18.0
governor spring	tolerance degree : + 6.0
pre-tension +	-
click setting x : 3.75	Setting point w/out bumper spring
	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.25
+	Tolerance mm : \leftarrow 0.10
Rated speed rpm : 1000 +	
+	Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel mm : 4.75
Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 8.05 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 9.15 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - 600

Del. quantity

cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mma : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm : 4.75 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.02.98 Test oil : ISO 4113

Combination No. : F 002 AOZ 069

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A2C947R

6overner no. : F 002 A20 248

Cust. part No. : 3933623

Customer—spec. information
Customer : CDC
Motor : 6BTA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

Ties . 1 000 150 01

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.00 Tolerance mm : + 0.05

Del. quantity +	Aneroid pressure
cm3/1000 strokes : 109.5	hPa : 1400
	Del. quantity
Tolerance	cm3/1000 strokes : 109.5
cm3/1000 strokes : + 1.0	Tolerance
	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance
cm3/1000s. : + 3.0	cm3/1000s. : + 3.0
CHS/10003 + 3.0 T	
S	Spreed
Spreed	Tolerance
	cm3/1000 strokes : 3.5
Tolerance +	Check tolerance
cm3/1000 strokes : 3.5 +	cm3/1000 \$. : 6.0
Check tolerance	
cm3/1000s. : 6.0	
	CONTROL LEVER
$\dot{1}$	control lever
Rated speed rpm : 500	position degree : 98.0
nated speed (pin :)UU	
Dool Annual in mary 5 50	tolerance degree : +- 4.0
Rack travel in mm: 5.50	
Tolerance mm : + 0.10 +	RATED SPEED
Del. quantity +	rack travel mm : 13.00
cm3/1000 strokes : 21.5	Rated speed rpm : 1155
Tolerance +	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 +	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 4.5	Rated speed rpm : 1245
Spreed	Tolerance 1/min : + 5
' ·	Totalite I/mili
Tolerance +	
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance +	Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1400
+	
+	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1245
WITH GOVERNOR	Tolerance 1/min : + 15
+	
$\dot{1}$	
ALTER OF SELECTION	
GUIDE SLEEVE POSITION +	1.611.751.5
†	LOW IDLE
†	
control lever +	
position degree : -3 +	control lever
Rated speed rpm : 800	position degree : 78.0
1	tolerance degree : + 4.0
Rack travel in mm: 0.50	
Tolerance mm : + 0.20	Control lever difference
TOUGH GRICE HAR U.LU	Grad : 20.0
To the second se	
governor spring	tolerance degree : +- 6.0
pre-tension +	Ontaking maint outside to
click setting x : 3.50 +	Setting point w/out bumper spring
+	
	Rated speed rpm : 500
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.00
↓	Tolerance mm : + 0.10
Rated speed rpm : 1100	
massa opesa i pin i i too	Rated speed rpm : 100

CRT man min.	. 10.00		rance	
CK! MAR MIN.	: > 19.00		1000 strokes k tolerance	: +- 2.0
Testing:			1000s.	: +- 4.0
Rated speed rpm	: 500	+		47.00
rack travel mm Tolerance mm	: 5.50 : ← 0.10		travel mm rance mm	
TORQUE CONTROL	4400		oid pressure	
Rated speed rpm rack travel mm	: 1100 : 13.00	+ hPa + Rate	d speed rpm	500
Tolerance mm	: + 0.05	+ Del.	quantity	
Rated speed rpm	• 750		1000 strokes rance	: 82.0
rack travel mm	: 14.65		1000 strokes	: - 1.0
Tolerance mm	: ← 0.10		k tolerance	
Rated speed rom	: 1000	† cms/	1000s.	: ← 3.0
Rated speed rpm rack travel mm Tolerance mma	: 13.80	+		
Tolerance mm	: ← 0.20	STAR	TING FUEL DELI	LVERY
ANEROID/ALTITUDE		Rate	d speed rpm	: 100
COMPENSATOR TEST		+ rack	travel mm	: 20.50
			rance mm quantity	: ← 0.50
SETTING			1 000 strokes	: 121.5
		+ Tole	rance	
Rated speed rpm Pressure hPa	: 500 : 1400		1 <mark>000 st</mark> rokes k tolerance	: ← 10.0
			1000s.	: ← 15.0
Rated speed rpm Pressure hPa rack travel mm	: 500	+		
Pressure hPa	: -	1		
Tolerance mm	: +- 0.20	 		
HAT A C. I IN THAT I'F		+ LOW	IDLE	
MEASUREMENT		T Rate	d speed rpm	: 500
Rated speed rpm	: 500	+	•	
Pressure hPa	: 800		travel in mm rance mm	
rack travel mm	: 13.50	+ Del.	quantity	
Tolerance mm	: 0.20		1000 strokes	: 21.5
Pressure hPa	: 600		rance 1000 strokes	: +- 2.0
rack travel mm	: 12.00	+ Chec	k tolerance	
Tolerance mm	: ← 0.20		1000s.	: ← 4.5
		+ Spre + Tole	eu rance	
			1000 strokes	: 3.5
FUEL DELIVERY CHA	RACTERISTICS		k tolerance 1000s.	: 5.5
Aneroid pressure		‡		
hPa	: 1400	+		
Rated speed rpm	: 750	+		
Del. quantity cm3/1000 strokes	: 132.5	‡ End	of test speci	fication shee
		•	• •	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 872

Injection pump

Pump designation : PES6P120A320RS3337 EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1246K

6overner no. : 0 421 815 480

Cust. part No. : CCEP 5155A 66-217

Customer-spec. information

Customer : RENAULT V.I.
Motor - MIDP 04-12-2

: MIDR 06-02-26 U4 Motor Motor : MIDR 06
Power KW : 111.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40Tolerance °C : \leftarrow 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 135 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 4.10 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 11.00 Tolerance mm: \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 0.08 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

11.00 travel Difference * CS : 2.00

CRT ZERO POSITION	
Rack travel in mm Tolerance mm	: 10.60 : + 0.05
BASIC SETTING	
Rated speed rpm	: 1250
Del. quantity cm3/1000 strokes	: 142.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 500
Rack travel in mm Tolerance mm	: -5.80 : +- 0.10
Del. quantity	
Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	:
Spreed	. + 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP
GUIDE SLEEVE TRAV	/EL
Rated speed rpm	: 1333
guide sleeve travel mm Tolerance mm	: 10.40 : +- 0.15
יטנכי פוועכ יווווי	0.15

	: 300
guide sleeve travel mm	. 1.31
Tolerance mm	: 1.31 : + 0.20
Rated speed rpm	: 900
guide sleeve travel mm	: 6.50
Tolerance mm	: + 0.25
Rated speed rpm	: 530
guide sleeve	
travel mm Tolerance mm	: 3.77 : ← 0.25
roterance nun	. — 0.23
Rated speed rpm guide sleeve	: 1580
travel mm	: 13.50
Tolerance mm	: +- 0.50
control lever position degree Rated speed rpm	
Rated speed : pw	1490
Rack travel in mm Tolerance mm	1 : 10.50 : ← 1.50
Tolerance mm	1: 10.50 : + 1.50
FULL LOAD DELIVER	: + 1.50 RY AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm Aneroid pressure	: + 1.50 RY AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Let. quantity	: + 1.50 RY AT FULL LOAD STOP : 1250 : -
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Tel. quartity cm3/1000 strokes	: + 1.50 RY AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Tel. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: + 1.50 RY AT FULL LOAD STOP : 1250 : -
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Tel. quartity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 1.50 RY AT FULL LOAD STOP : 1250 : - : 142.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Tel. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: + 1.50 RY AT FULL LOAD STOP : 1250 : - : 142.0 : + 1.0

CONTROL LEVER

control lever
position degree : 296.0
tolerance degree : + 4.0

RATED SPEED

Check tolerance cm3/1000s. 9.0

rack travel mm : -1.00

Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min	: -6.60
rack travel mm Tolerance mm Rated speed rpm	: −10.10 : ← 0.50 : 1550
LOW IDLE	
control lever position degree tolerance degree	: 242.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -4.80
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : -5.80 : + 0.10
Rated speed irpm	: 380
TORQUE CONTROL Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 750 : −1.60 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 350 : −2.45 : ← 0.20
Start interlock	
Rated speed rpm Rated speed rpm	: > 130 : < 245
Check speed 1/min Check speed 1/min	: > 110 : < 255
	

Aneroid pressure		
hPa	: -	
Rated speed rpm	: 750	
Del. quantity cm3/1000 strokes	: 104.0	
Tolerance		
cm3/1000 strokes	: +- 3.0	
Check tolerance cm3/1000s.	: + 6.0	
(1107 10003.	0.0	
rack travel mm	: -2.45	
Tolerance mm	: + 0.20	
STARTING FUEL DELI	TVCDV	
STARTING FUEL DEL	TACKI	
Rated speed rpm	: 100	
Del. quantity cm3/1000 strokes	: 108.0	
Tolerance	. 100.0	
cm3/1000 strokes	: + 15.0	
Check tolerance cm3/1000s.	: + 19.0	
CIID/ (DUD).	: 19.0	
LOW IDLE		
LOW IDLE Rated speed rpm	: 300	
	5.00	
Rated speed rpm Rack travel in mm Tolerance mm		
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity	: -5.80 : + 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: -5.80 : + 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: -5.80 : + 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: -5.80 : + 0.10 : 28.0 : + 2.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: -5.80 : + 0.10 : 28.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: -5.80 : + 0.10 : 28.0 : + 2.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: -5.80 : + 0.10 : 28.0 : + 2.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: -5.80 : + 0.10 : 28.0 : + 2.0 : + 5.0 : 8.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: -5.80 : + 0.10 : 28.0 : + 2.0 : + 5.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: -5.80 : + 0.10 : 28.0 : + 2.0 : + 5.0 : 8.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: -5.80 : + 0.10 : 28.0 : + 2.0 : + 5.0 : 8.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: -5.80 : + 0.10 : 28.0 : + 2.0 : + 5.0 : 8.0 : 12.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: -5.80 : + 0.10 : 28.0 : + 2.0 : + 5.0 : 8.0 : 12.0	

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 675

Injection pump

Pump designation : PE6P120A320RS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1337K

Governer no. : 0 421 815 554

Cust. part No. : 1322504

Customer—spec. information
Customer : DAF
Motor : WS 268 M
Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : $^{\checkmark}$ O Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.55
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s.	: +- 4.0	+ Rated speed rpm : 1370 - guide sleeve
Spreed		travel mm : 13.50 Tolerance mm : + 0.50
Tolerance cm3/1000 strokes	: 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 9.0	control lever
		position degree : -1 Rated speed rpm : 1248
Rated speed rpm	: 275	Rack travel in mm: 12.80
Rack travel in mo		Tolerance mm : + 2.00
Del. quantity cm3/1000 strokes Tolerance	: 17.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance	: ← 3.0	Rated speed rpm : 980 Aneroid pressure
cm3/4000s. Spreed	: +- 6.0	→ hPa : - → Del. quantity
Tolerance cm3/1000 strokes		cm3/1000 strokes : 250.0 Tolerance
Check tolerance cm3/1000s.		cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0
(B) SETTING OF IN	NUECTION PUMP	+ Spreed + Tolerance + cm3/1000 strokes : 5.0 + Check tolerance
GUIDE SLEEVE TRAN	VEL	+ cm3/1000s. : 9.0
Rated speed rpm guide sleeve travel mm	: 1047 : 7.35	CONTROL LEVER
Tolerance mm		control lever position degree : 110.0
Rated speed rpm guide sleeve		tolerance degree : + 4.0
travel mm Toleranc∈ mm	: 2.04 : + 0.20	+ RATED SPEED + rack travel mm : 12.55 + Rated speed rpm : 1042
Rated speed rpm guide sleeve	: 820	Tolerance 1/min : + 5
travel mm Tolerance mm	: 5.14 : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1150
Rated speed rpm	: 480	Tolerance 1/min : + 15
guide sleeve travel mm	: 3.34	rack travel mm : 0.70 Tolerance mm : + 0.70
Tolerance mm	: - 0.25	Rated speed rpm : 1250
Rated speed rpm guide sleeve		‡
travel mm Tolerance mm	: 12.00 : ← 0.25	LOW IDLE

control lever position degree : 75.0 tolerance degree : + 4.0	
Setting point w/out bumper spring	
Rated speed rpm : 175	
CRT mm min. :> 7.50	
Testing:	
Rated speed rpm : 275 rack travel mm : 5.10 Tolerance mm : + 0.10	
Rated speed rpm : 350	
TORQUE CONTROL Rated speed rpm : 980 rack travel mm : 13.55 Tolerance mm : + 0.05	-
Rated speed rpm : 750 rack travel mm : 13.05 Tolerance mm : + 0.05	
Rarted speed rpm : 600 rack travel mm : 12.35 Tolerance mm : + 0.10	
Rated speed rpm : 500 rack travel mm : 11.90 Tolerance mm : + 0.10	
ANERGID/ALTITUDE COMPENSATOR TEST	-
SETTING	
Rated speed rpm : 980 Pressure hPa : 1500 rack travel mm : 13.55 Tolerance mm : + 0.05	
Rated speed rpm : 980 Pressure hPa : - rack travel mm : 8.20 Tolerance mm : + 0.10	
MEASUREMENT	
Rated speed rpm : 980	
Pressure hPa : 820	

rack travel mm Tolerance mm	: 12.25 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 400 : 9.40 : +- 0.15
FUEL DELIVERY CHAI	RACTERISTICS
Aneroid pressure	: -
Rated speed rpm	: 750
Del. quantity cm3/1000 strokes Tolerance	: 263.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
rack travel mm Tolerance mm	: 12.35 : + 0.10
Aneroid pressure	• _
Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 144.0
Tolerance cm3/1000 strokes	: ← 1.0
Check tolerance cm3/1000s.	: +- 4.0
LOW IDLE	
Rated speed rpm	
Rack travel in mm Tolerance mm	: 5.10 : + 0.10
Del. quantity cm3/1000 strokes	: 17.0
Tolerance cm3/1000 strokes Check tolerance	: ← 3.0
cm3/1000s. Spreed	: + 6.0

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.02.98 : ISO 4113

Combination No. : 0 402 646 704

Injection pump

Pump designation : PE6P120A320LS7904 EP type number : 0 412 626 961

Governor

Governer design. : RQV300...950PA1377

Governer no. : 0 421 814 208

Cust. part No.

: 04223929 KY

Customer-spec. information

: KHD Customer

: BF6M1015/C Motor

Power KW

: 300.0

TEST BENCH REQUIREMENTS

Inlet line

Test oil inlet

temo. °C

Tolerance °C : +- 2.0

: 2 417 413 033 Overflow valve

Inlet press. bar : : + 0.1 Tolerance bar

Overflow quantity

min. L/h 240

Tolerance l/h: +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 har : + 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.05 Tolerance mm : + - 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 6-3-5-2-4-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 300.00 Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

,	
Rack travel in am : 13.40	- - Rated speed rpm : 1160
Tolerance mm : +- 0.05	- kateu speed rpm : 1100 - guide sleeve
Toter agive min . 1 = 0.05	- travel mm : 13.50
Del. quantity	- Tolerance mm : +- 0.50
cm3/1000 strokes : 350.0	-
Tolerance	- GUIDE SLEEVE POSITION
cm3/1000 strokes : +- 1.0 -	4050
Charle to large	- Rated speed rpm : 1050
Check tolerance cm3/1000S. : +- 4.0	- - Rack travel in mm : 12.40
CIRS/ 10005.	Tolerance mm : +- 1.30
Spreed	-
· ·	
Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 6.0 -	- D. C. S. C. C. C. C. C. C. C. C. C. C. C. C. C.
Check tolerance	- Rated speed rpm : 950 - Aneroid pressure
cm3/1000s. : 9.0	- Anerota pressure - hPa : 1700
· /··	Del. quantity
	- cm3/1000 strokes : 350.0
· · · · · · · · · · · · · · · · · · ·	- Tolerance
Rated speed rpm : 300	- cm3/1000 strokes : +- 1.0
7.	Check tolerance
Rack travel in mm : 4.70 - Tolerance mm : +- 0.10 -	- cm3/1000s. : +- 4.0 - Spreed
Dei. quantity	- Tolerance
cm3/1000 strokes : 23.0	cm3/1000 strokes : 6.0
Tolerance	- Check tolerance
cm3/1000 strokes : +- 3.0	- cm3/1 00 0s. : 9.0
Check tolerance	-
cm3/1000s. : +- 6.0	
Spreed - Tolerance -	- CONTROL LEVER
cm3/1000 strokes : 8.0	- CONTINUE EEVER
Check tolerance	control lever
cm3/1000s. : 12.0	- position degree : 122.0
	- tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP	- - RATED SPEED
WITH GOVERNOR	r rack travel mm : 12.40
WITH GOVERNOR	- Rated speed rpm : 985
	Tolerance 1/min : +- 5
GUIDE SLEEVE TRAVEL	
Parked would be a company	rack travel mm : 4.50
Rated speed rpm : 999	Rated speed rpm : 1050 Tolerance 1/min : +- 15
guide sleeve - travel mm : 10.19 -	L Toterance Dmm : +- 15
Tolerance m_1 : $+-0.15$	rack travel mm : 0.50
	- Tolerance mm : + 0.50
Rated speed rpm : 300	- Rated speed rpm : 1200
guide sleeve	+
travel mm : 1.13	-
Tolerance mm : + 0.20	
Rated speed rpm : 700	- LOW IDLE
guide sleeve	-
travel mm : 5.10	-
Tolerance mm : + 0.25	,

control lever

76.0 position degree : tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm 200

: > 6.50 CRT an min.

Testing:

300 Rated speed rpm rack travel mm 4.70 : + 0.10Tolerance mm

Rated speed rpm 345

TORQUE CONTROL

950 Rated speed rpm 13.40 rack travel mm : + 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

400 Rated speed rpm 1700 Pressure hPa 13.40 rack travel mm : +- 0.05 Tolerance mm

400 Rated speed rpm Pressure hPa 8.40 rack travel mm : + 0.20Tolerance mm

MEASUREMENT

400 Rated speed rom

550 Pressure hPa : 10.20 rack travel mm : + 0.20Tolerance mm

1000 Pressure hPa 12.50 rack travel mm : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

400 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.: **←** 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm : 8.40 rack travel mm : +- 0.30Tolerance mm

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

: + 24.0cm3/1000s.

LOW IDLE

Rated speed rpm : 300

4.70 Rack travel in mm: 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 23.0

Tolerance

3.0 cm3/1000 strokes : +-Check tolerance

cm3/1000s.

6.0

8.0

Spreed Tolerance

cm3/1000 strokes :

Check tolerance

cm3/1000S. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 887AB

Injection pump

Pump designation : PE6P120A720RS7188

: -10

EP type number : 0 412 626 924

Governor

Governer design. : RQV200...950PA725-7

Governer no. : 0 421 813 803

Cust. part No. : 1333122-1

Customer-spec. information

Customer : SCANIA Motor : DSC 11 23

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm): 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 190 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

		Tolerance mm : +- 0.30
Rack travel in mm Tolerance mm		- Rated speed rpm : 350 - guide sleeve
		travel mm : 2.70
Del. quantity cm3/1000 strokes	: 252.0	Tolerance mm : + 0.30
Talamana		Rated speed rpm : 1125
Tolerance cm3/1000 strokes	: + 1.0	r guide sleeve travel mm : 9.50 Tolerance mm : + 0.20
Check tolerance cm3/1000s.	: + 4.0	GUIDE SLEEVE POSITION
Spreed		GOIDE SCEEVE POSITION
Tolerance cm3/1000 strokes	: 8.0	control lever position degree : - 1 Rated speed rpm : 1150
Check tolerance cm3/1000s.	: 12.0	Rack travel in mm : 9.50 Tolerance mm : + 2.50
	1	
Rated speed rpm	: 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm		Rated speed rpm : 700
Tolerance mm	: ← 0.10	Aneroid pressure
Del. quantity cm3/1000 strokes	: 16.0	i hPa : - Del. quantity
Tolerance	. 10.0	cm3/1000 strokes : 252.0
cm3/1000 strokes	: + 3.0	Tolerance
Check tolerance	4.0	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. Spreed	: 6.0	- cm3/1000s. : +- 4.0
Tolerance	-	Spreed
cm3/1000 strokes	: 4.0	Tolerance
Check tolerance	1	cm3/1000 strokes : 8.0
cm3/1000s.	: 8.0	Check tolerance : 12.0
(B) SETTING OF IN	JECTTON PUMP	
WITH GOVERNOR	7	
		CONTROL LEVER
GUIDE SLEEVE TRAV	EL -	control lever
		position degree : 60.0
Rated speed rpm guide sleeve	: 1045	tolerance degree : + 4.0
travel mm	: 8.50	control lever
Tolerance mm		position degree : 114.0
	,	tolerance degree : +- 4.0
Rated speed rpm	: 225	T RATED SPEED
guide sleeve travel mm	: 1.40	rack travel mm : 12.80
Tolerance mm		Rated speed rpm : 995
	· ·	Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm	-	Check speed 1/min : +- 10
travel mm	: 4.80	†

rack travel mm Rated speed rpm Tolerance 1/min Check speed 1/min	: 4.00 : 1125 : ← 15 : ← 20
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 1250
LOW IDLE	
control lever position degree tolerance degree	: 64.0 : + 4.0
control lever position degree tolerance degree	: 10.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 6.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.70 : + 0.10
Rated speed rpm	: 300
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 13.85 : ← 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.85
Tolerance mm : + 0.05

Rated speed rpm	:	500
Pressure hPa	:	_
rack travel mm	:	9.60
Tolerance mm	: +-	0.20

MEASUREMENT

Rated speed rpm	: 500
Pressure hPa	: 270
rack travel mm	: 10.90
Tolerance mm	: + 0.15
Pressure hPa	: 440
rack travel mm	: 11.90
Tolerance mm	: ← 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	950
Del. quantity		O"77 O
cm3/1000 strokes	:	237.0
Tolerance		
cm3/1000 strokes	: 4	- 4.0
Check tolerance		
cm3/1000s.	: +	-6.0

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		500
Del. quantity cm3/1000 strokes	:		128.0
Tolerance	•		
cm3/1000 strokes	:	+-	1.0
Check tolerance cm3/1000s.	:	+-	4.0

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:	100 10,40
Tolerance mm	: +-	0.20
Del. quantity cm3/1000 strokes Tolerance	:	165.0
cm3/1000 strokes	: +-	20.0
Check tolerance cm3/1000s.	: +-	24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70

Tolerance mm : + 0.10

Del. quantity

Del. quantity cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : + 6.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 937AB

Injection pump

Pump designation : PE6P120A720RS7188

: -100

EP type number : 0 412 626 925

Governor

Governer design. : RQV200...950PA725-7

Governer no. : 0 421 813 803

Cust. part No. : 1333121-1

Customer—spec. information Customer : SCANIA Motor : DSC11 21

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45Tolerar.ce mm : \div 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Fhasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.75
Tolerance mm : + 0.05

	∔ guide sleeve
Del. quantity cm3/1000 strokes : 220.0	travel mm : 2.70 Tolerance mm : + 0.30
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1125 guide sleeve travel mm : 9.50
Check tolerance cm3/1000s. : + 4.0	Tolerance mm : + 0.20
Spreed	GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes : 8.0	control lever position degree : - 1
Check talerance : 12.0	Rated speed rpm : 1150
	+ Rack travel in mm : 9.50 + Tolerance mm : + 2.50
Rated speed rpm : 250	ļ
Rack travel in mm : 4.70	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.10	Rated speed rpm : 700
Del. quantity	Aneroid pressure
cm3/1000 strokes : 16.0	+ hPa : -
Tolerance	+ Del. quantity
cm3/1000 strokes : +- 3.0 Check tolerance	+ cm3/1000 strokes : 220.0 + Tolerance
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : + 4.0
cm3/1000 strokes : 4.0	+ Spreed
Check tolerance	+ Tolerance
cm3/1000s. : 8.0	+ cm3/1000 strokes : 8.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL	CONTROL LEVER
	control lever
Rated speed rpm : 1045	position degree : 60.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 8.50	† control loves
Tolerance mm : ← 0.10	+ control lever + position degree : 112.0
Rated speed rpm : 225	tolerance degree : + 4.0
guide sleeve	+
travel mm : 1.40	+ RATED SPEED
Tolerance mm : +- 0.20	rack travel mm : 11.70
	+ Rated speed rpm : 995
Rated speed rpm : 650	+ Tolerance 1/min : + 5 + Check
guide sleeve travel mm : 4.80	+ check + speed 1/min : + 10
Tolerance mm : + 0.30	
	rack travel mm : 4.00
Rated speed rpm : 350	Rated speed rpm : 1120
	+ Tolerance 1/min : + 15

Check speed 1/min : + 20 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1250 LOW IDLE control lever position degree : 62.0	Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 270 rack travel mm : 11.05 Tolerance mm : + 0.15 Pressure hPa : 440 rack travel mm : 12.00 Tolerance mm : + 0.05
tolerance degree : + 4.0 control lever position degree : 10.0 tolerance degree : + 4.0	FUEL DELIVERY CHARACTERISTICS Aneroid pressure
Setting point w/out bumper spring Rated speed rpm : 150 CRT mm min. :> 6.07 Testing:	hPa : - Rated speed rpm : 950 Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 6.0
Rated speed rpm : 250 rack travel mm : 4.70 Tolerance mm : + 0.10 Rated speed rpm : 275 TORQUE CONTROL Rated speed rpm : 700	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 950	cm3/1000s. : +- 4.0
Tolerance mm : 12.75 Tolerance mm : + 0.05 ANEROID/ALTITUDE COMPENSATOR TEST	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.40 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 165.0 Tolerance
Rated speed rpm : 500 Pressure hPa : 1500	cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0
rack travel mm : 12.75 + Tolerance mm : + 0.05 + Rated speed rpm : 500 +	LOW IDLE
Pressure hPa : - + rack travel mm : 9.60 +	Rated speed rpm : 250

HO5

Rack travel in mm Tolerance mm	:	+-	4.70 0.10
Del. quantity cm3/1000 strokes	:		16.0
Tolerance cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	6.0
Tolerance cm3/1000 strokes	:		4.0
Check tolerance cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.11.97 Test oil : ISO 4113

Combination No. : 0 402 678 836

Injection pump

Pump designation: PESP120A320LS7844
EP type number: 0 412 628 860

6overnor

Governer design. : RSV550...1050P0A672

60verner no. : 0 421 833 591

Cust. part No. : 0270746402

Customer spec. information Customer : MB-NFZ Motor : 0M442LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 225 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack trayel in mm : 15.60	
Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 270.0	Rated speed rpm : 1050 Aneroid pressure
<u> </u>	hPa : 1200
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 270.0
Check tolerance	Tolerance cm3/1000 strokes : +- 1.0
cm3/1000s. : + 4.0	Check tolerance cm3/1000s. : + 4.0
Spreed	Spreed Tolerance
Tolerance	cm3/1000 strokes : 5.0
cm3/1000 strokes : 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	
	CONTROL LEVER
Rated speed rpm : 550	control lever
†	position degree : 88.0
Rack travel in mm: 4.00 + Tolerance mm: + 0.10 +	tolerance degree : +- 4.0
Tolerance mm : + 0.10 + Del. quantity +	
cm3/1000 strokes : 19.0	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : + 3.0	Rated speed rpm : 1070
Check tolerance	Tolerance 1/min : + 1
cm3/1000s. : ← 6.0 + 5preed	rack travel mm : 14.60
Tolerance	Rated speed rpm : 1110
cm3/1000 strokes : 8.0	Tolerance 1/min : + 4 rack travel mm : 4.00
Check tolerance tm3/1000s. : 12.0	rack travet mm : 4.00
	rack travel mm : 0.85
+	Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1200
†	Datas annual man APRI
	Rated speed rpm : 1071 Tolerance 1/min : + 1
GUIDE SLEEVE POSITION	rack travel mm : 14.60
I	Rated speed rpm : 1111
control lever	Tolerance 1/min : + 4
position degree : -3	rack travel mm : 4.00
Rated speed rpm : 800 +	neal Annual on . O. O.
Rack travel in mm: 0.50	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1200
Tolerance mm : + 0.20	Tolerance mm : +- 0.55 Rated speed rpm : 1200
+	
governor spring +	Detail aread pro : 4072
pre-tension +	Rated speed rpm : 1072
click setting x : 2.00	Tolerance 1/min : + 1 rack travel mm : 14.60
Ţ	THE COURSE CONTRACTOR OF THE COURSE CONTRACTOR OF THE COURSE COUR

Rated speed rpm	: 1112
Tolerance 1/min	: ← 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1200
Rated speed rpm	: 1073
Tolerance 1/min	: +- 1
rack travel mm	: 14.60
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1200
Rated speed rpm Tolerance 1/min rack travel mm	
Rated speed rpm	: 1114
Tolerance 1/min	: ← 4
rack travel mm	: 4.00
rack travel mm Tolerance mm Rated speed rpm	: ← 0.55
Rated speed rpm Tolerance 1/min rack travel mm	
Rated speed rpm	: 1115
Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mma	: +- 0.55
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : ← 4.0
Setting point w/o	out bumper spring

Rated speed rpm rack travel mm Tolerance mm	: 550 : 4.00 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 570
SET IDLE AUXILIARY	SPRING
rack travel mm	: 2.00
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.60 : + 0.05
Rated speed rpm rack travel man Tolerance man	: 600 : 15.60 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 450 : 1200 : 15.60 : + 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 450 : - : 9.75 : + 0.20
MEASUREMENT	
Rated speed rpm	: 450
Pressure hPa rack travel mm Tolerance mm	: 600 : 12.20 : +- 0.15
Pressure hPa rack travel mm Tolerance mm	: 800 : 14.10 : + 0.20
FUEL DELIVERY CHAI	RACTERISTICS
Aneroid pressure	: 1200

Testing:

Rated speed rpm : 100

CRT mm min. : > 19.50

Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 287.0
Tolerance	-
cm3/1900 strokes Check tolerance	:
cm3/1000s.	: +- 6.0
Aneroid pressure hPa	: -
Rated speed rpm	: 500
Del. quantity cm3/1000 strokes	: 162.0
Tolerance cm3/1000 strokes	: 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 260.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 75.0
cm3/1000s.	: ← 19.0
LOW IDLE	
Rated speed rpm	: 550
Rack travel in mm	
Tolerance mm Del. quantity	: + 0.10
cm3/1000 strokes	: 19.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s. Spreed	: ← 6.0
Tolerance	: 8.0
cm3/1000 strokes Check tolerance	
cm3/1000s.	: 12.0
End of test speci	fication chart

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.11.97 Test oil : ISO 4113

Combination No. : 0 402 678 837

Injection pump

Pump designation : PE8P120A320LS7911 EP type number : 0 412 628 926

Governor

Governer design. : RSV550...1050P0A679

Governer no. : 0 421 833 598

Cust. part No. : 027 074 6502

Customer-spec. information Customer : MB-NFZ

Motor : OM442LA, Euro

Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check

uneck

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.40	
Rack travel in mm: 14.40 + Tolerance mm: + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 227.0	Rated speed rpm : 1050 Aneroid pressure
	hPa : 1100
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 227.0 Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0
cm3/1000s. : + 4.0	Check tolerance cm3/1000S. : +- 4.0
Spreed	Spreed Tolerance
Tolerance	cm3/1000 strokes : 5.0
cm3/1000 strokes : 5.0 +	Check tolerance : 9.0
Check tolerance cm3/1000s. : 9.0	
	CONTROL LEVER
Ţ	CONTROL LEVER
Rated speed rpm : 550	control lever
Back Annual in an a / 20	position degree : 87.0
Rack travel in mm: 4.20 + Tolerance mm: + 0.10 +	tolerance degree : +- 4.0
Del. quantity +	
cm3/1000 strokes : 19.0	ASSEMBLY GOVERNOR SETTING
cn3/1000 strokes : +- 3.0 +	Rated speed rpm : 1085
Check tolerance	Tolerance 1/min : + 1
cm3/1000s. : + 6.0 +	rask travel mm : 13.50
Spreed	5-1-1
Tolerance + cm3/1000 strokes : 8.0 +	Rated speed rpm : 1125 Tolerance 1/min : + 4
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 12.0	t dott et dy de mm
+	rack travel mm : 0.85
+	Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP + WITH GOVERNOR +	Rated speed rpm : 1300
†	Dated aread are 4007
<u> </u>	Tolerance 1/min · +- 1
GUIDE SLEEVE POSITION	Rated speed rpm : 1087 Tolerance 1/min : +- 1 rack travel mm : 13.50
I	Rated speed rpm : 1127
control lever	Tolerance 1/min : +- 4
position degree : -3	Tolerance 1/min : +- 4 rack travel mm : 4.00
Rated speed rpm : 800 +	0.05
Pools denoted in the C. 50	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
Rack travel in mm: 0.50 + Tolerance mma : + 0.20 +	Tolerance mm : +- 0.55 Rated speed rpm : 1300
+	
governor spring +	Dated arred man a 4000
pre-tension + click setting x : 2.00 +	Rated speed rpm : 1089 Tolerance 1/min : +- 1
tilk setting x . c.uu	rack travel mm : 13.50
4	
•	

Rated speed rpm	: 1129	1.
Tolerance 1/min		rack travel mm : 2.00
rack travel mm		Rated speed rpm : 580_
I dek ti dvet mm	. 4.00	Tolerance 1/min : +- 30
rack travel mm	: 0.85	T Toterance Printing . 1 50
Tolerance mm	. ← 0.55	SET IDLE AUXILIARY SPRING
Rated speed rpm		T SEI IDLE AUXILIARI SPRING
Rated speed rpm	: 1300	T most travel mm . 2.00
		rack travel mm : 2.00
Dahad amagii dijii	. 1001	†
Rated specifica		TOPOUE CONTROL
Tolerance 1/min		TORQUE CONTROL
rack travel mm	: 13.50	Rated speed rpm : 1050
Datad award www	. 1171	rack travel mm : 14.40 Tolerance mm : + 0.05
Rated speed rpm		† Tolerance mm : + 0.05
Tolerance 1/min		D And any diament (00)
rack travel mm	: 4.00	+ Rated speed rpm : 600
.1 4. 1 -	0.05	+ Tolerance mm : + 0.10
rack travel mm	: 0.85	†
Tolerance mm		ANDOOTO AN TITUDE
Rated speed rpm	: 1300	+ ANEROID/ALTITUDE
		+ COMPENSATOR TEST
	4207	†
Rated speed rpm		†
Tolerance 1/min		+ SETTING
rack travel mm	: 13.50	†
		+ Rated speed rpm : 450
Rated speed rpm		+ Pressure hPa : 1100
Tolerance 1/min		+ rack travel mm : 15.00
rack travel mm	: 4.00	† Tolerance mm : + 0.10
		+
rack travel mm	: 0.85	+ Rated speed rpm : 450
Tolerance mm	: ← 0.55	+ Pressure hPa : -
Rated speed rpm	: 1300	+ rack travel mm : 11.10
		+ Tolerance mm : + 0.20
		†
Rated speed rpm		+ MEASUREMENT
Tolerance 1/min		+
rack travel mm	: 13.50	+ Rated speed rpm : 450
		†
Rated speed rpm	: 1135	Pressure hPa : 750_
Tolerance 1/min		rack travel mm : 14.30
rack travel mm	: 4.00	Tolerance mm : + 0.20
		+
rack travel mm	: 0.85	+ Pressure hPa : 550
Tolerance mm	: +- 0.55	+ rack travel mm : 12.50
Rated speed rpm	: 1300	Tolerance mm : + 0.15
		†
		 †
LOW IDLE		PUEL DEL TUEDY OLIADA CTENTOTTOS
		+ FUEL DELIVERY CHARACTERISTICS
		†
control lever	. 74.0	Anna
position degree		Aneroid pressure
tolerance degree	; +- 4.U	+ hPa : 1100
		Rated speed rpm : 600
Testing:		+ Del. quantity
	550	+ cm3/1000 strokes : 248.0
Rated speed rpm		+ Tolerance
rack travel mm		+ cm3/1000 strokes : + 2.0
Tolerance mm	: +- 0.10	†

Check tolerance cm3/1000s.5.0 Spreed Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

Aneroid pressure

hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 166.0

Tolerance cm3/1000 strokes : +-2.0

Check tolerance

5.0 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

: + 19.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 550

4.20 Rack travel in mm: Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1909 strokes : +-3.0

Check tolerance

cm3/1000s.

6.0 : +-Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance

12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 638

Injection pump

Pump designation : PES6F120A320RS7449

EP type number : 0 412 726 974

6overnor

Governer design. : RQ275/1050PA1373 Governer no. : 0 421 801 831

Cust. part No. : CCEP 5171-66/254

Customer-spec. information

Customer : RENAULT V.I.
Motor : MI7R062045 C41

Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 220 Tolerance l/h : \leftarrow 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETFING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : -0.95

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 11.70 Tolerance mm: : + 0.05	Rated speed rpm : 1050 guide sleeve travel mm : 6.70
BASIC SETTING	- Tolerance mm : +- 0.10
Rated speed rpm : 1050	Rated speed rpm : 668 guide sleeve
Del. quantity	travel mm : 6.18 Tolerance mm : + 0.10
cm3/1000 strokes : 176.0	- - Rated speed rpm : 377 - guide sleeve
cm3/1000 strokes : + 1.0	- travel mm : 5.00 - Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : + 4.0	- Rated speed rpm : 460 - guide sleeve
Spreed	- travel mm : 6.00 - Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : 5.0	- - Rated speed rpm : 1310 - guide sleeve
Check tolerance cm3/1000s. : 9.0	- travel mm : 11.50 - Tolerance mm : + 0.50
	- - Rated speed rpm : 874 - guide sleeve
Rated speed rpm : 275	- travel mm : 6.52 - Tolerance mm : + 0.10
Rack travel in mm: -6.20 Tolerance mm: + 0.10	CHITAGO CLEGATE DOCUTION
Del. quantity cm3/1000 strokes : 28.0 Tolerance	GUIDE SLEEVE POSITION
cm3/1000 strokes : + 2.0 Check tolerance	- control lever - position degree : 109
cm3/1000s : +- 5.0 5.0 5.0	- Rated speed rpm : 500
Tolerance cm3/1000 strokes : 8.0 Check tolerance	- Rack travel in mm : 20.00 - Tolerance mm : +- 0.80 -
cm3/1000s. : 12.0	- FULL LOAD DELIVERY AT FULL LOAD STOP
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- - Rated speed rpm : 1050 - Aneroid pressure
WITH GOVERNOR	- hPa : 1000 - Del. quantity
GUIDE SLEEVE TRAVEL	- cm3/1000 strokes : 176.0 - Tolerance
Rated speed rpm : 1125 guide sleeve	- cm3/1000 strokes : + 1.0 - Check tolerance
travel mm : 7.06 Tolerance mm : + 0.15	- cm3/1000s. : +- 4.0 - Spreed
Rated speed rpm : 275	- Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
travel mm : 2.38 Tolerance mm : + 0.20	- cm3/1000s. : 9.0

CONTROL LEVER

control lever

position degree : 276.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : -1.00 Rated speed rpm : 1115 Tolerance 1/min : +- 5

rack travel nm : -7.70
Rated speed rpm : 1210
Tolerance 1/min : +- 15

rack travel mm : -11.20 Tolerance mm : +- 0.50 Rated speed rpm : 1350

LOW IDLE

control lever

position degree : 256.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : < -4.30

Testing:

Rated speed rpm : 275
rack travel mm : -6.20
Tolerance mm : + 0.10

rack travel mm : -9.70 Rated speed rpm : 365 Tolerance 1/min : \leftarrow 20

TORQUE CONTROL

Rated speed rpm : 1050

Rated speed rpm : 600 rack travel mm : 0.80 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 0.80
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : -1.00
rack travel mm : -1.00
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 280
rack travel mm : 0.35
Tolerance mm : + 0.15

Pressure hPa : 160 rack travel mm : -0.40 Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 195

Check

speed 1/min : > 80
Check
speed 1/min : < 215</pre>

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 193.0
Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 149.0 Tolerance

cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity cm3/1000 strokes :

155.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s.: + 19.0

LOW IDLE

275 Rated speed rpm

Rack travel in mm: -6.20 : **+** 0.10 Tolerance mm

Del. quantity

28.0 cm3/1000 strokes :

Tolerance

2.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s.5.0

Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.02.98 : ISO 4113

Combination No. : 0 402 746 645

Injection pump

Pump designation : PES6P120A320RS7364

EP type number : 0 412 726 930

Governor

Governer design. : RQV300...1050PA1204

Governer no. : 0 421 814 123

Cust. part No. : CCEP 5148A 66-236

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MIDR 06.20.45D41

Power KW

: 219.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 078

2.5

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

H19

x inside diameter : 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.55 : **←** 0.05 Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 20.25 : → 0.75

Tolerance mm

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance $^{\bullet}NW$: \leftarrow 0.75

Start of delivery mark

*NW after s.o.d. : -0.40 : ← 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 13.90

Tolerance mm : \leftarrow 0.05

BASIC SETTING

Rated speed rpm	: 600 +	guide sleeve
		travel ma : 2.40
Del. quantity	t	Tolerance mm : + 0.25
cm3/1000 strokes	: 290.0	D 4 1 4 1
* .1		Rated speed rpm : 415
Tolerance	†	guide sleeve
cm3/1000 strokes	: +- 1.0 +	travel mm : 3.28
Charle talanamen		Tolerance mm : + 0.25
Check tolerance cm3/1000s.	: +- 4.0	Rated speed rpm : 460
CHD/ 10005.	· +- 4.0	Rated speed rpm : 460 guide sleeve
Spreed		travel mm : 3.86
Spi eeu	I	Tolerance mm : + 0.25
Tolerance		rocer drice may
cm3/1000 strokes	: 5.0	Rated speed rpm : 1460
DIED TOOD SET ONES	1	guide sleeve
Sheck tolerance		travel mm : 11.50
cm3/1000s.	: 9.0	Tolerance mm : + 0.50
	1	
	 	GUIDE SLEEVE POSITION
Rated speed rpm	: 300	
•	+	
Rack travel in mm		control lever
Tolerance mm	: + 0.10 +	position degree : - 1
Del. quantity	+	Rated speed rpm : 1230
cm3/1000 strokes	: 26.0	
Tolerance	†	Rack travel in mm : 11.70
cm3/1000 strokes	: ← 2.0 †	Tolerance mm : +- 1.30
Check tolerance	<u> </u>	
cm3/1000s.	: + 5.0 +	THE LOSS BELLINES AT THE LOSS STOR
Spreed	†	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	3.2	D to 1 1 (00
cm3/1000 strokes	: 8.0	Rated speed rpm : 600
Check tolerance	: 12.0	Aneroid pressure hPa : 1000
cm3/1000s.	: 12.0	Del. quantity
	I	cm3/1000 strokes : 290.0
(B) SETTING OF IN	RECTTON DIMP	Tolerance
WITH GOVERNOR	T T	cm3/1000 strokes : +- 1.0
MIIII GOACINION	1	Check tolerance
		cm3/1900s. : +- 4.0
GUIDE SLEEVE TRAVI	EL 🕹	Spreed
	1	Tolerance
Rated speed rpm	: 1135	cm3/1000 strokes : 5.0
guide sleeve	+	Check tolerance
travel mm	: 8.45	cm3/1000s. : 9.0
Tolerance mm	: ← 0.25 +	
	+	
Rated speed rpm	: 300 +	
guide sleeve	+	CONTROL LEVER
travel mm	: 1.33 +	
Tolerance mm	: +- 0.25	control lever
5 4 4	+	position degree : 303.0
Rated speed rpm	: 752 +	tolerance degree : +- 4.0
guide sleeve	· (20)	DATEN ODEEN
travel mm	: 6.09	RATED SPEED
Tolerance mm	: ← 0.25	rack travel mm : -1.00
O-464 -16-64 -16-	. 745	Rated speed rpm : 1140 Tolerance 1/min : +- 5
Rated speed rpm	: 365 +	TOTALINE INTERPORT

rack travel mm : -9.90
Rated speed rpm : 1310
Tolerance 1/min : + 15
rack travel mm : -13.40
Tolerance mm : + 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 267.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300 rack travel mm : -7.50 Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < −5.10

Rated speed rpm : 360

TORQUE CONTROL Rated speed rpm : 600

Rated speed rpm : 1050 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa : 1000

Rated speed rpm : 500
Pressure hPa : -2.50
Tolerance mm : +0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -1.45
Tolerance mm : + 0.15

Pressure hPa : 400 rack travel mm : -0.50 Tolerance mm : +0.05

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 230

Check

speed 1/min : > 80

Check

speed 1/min : < 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 1050

Del. quantity

cm3/1000 strokes : 298.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 166.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : \leftarrow 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm	:	300
Rack travel in man Tolerance man	: • +-	-7.60 0.10
Del. quantity	•	
cm3/1000 strokes Tolerance	:	26.0
cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s. Spreed	: +-	5.0
Tolerance cm3/1000 strokes		• n
Check tolerance	•	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.02.98 : ISO 4113

Combination No. : 0 402 746 650

Injection pump

Pump designation : PES6P120A320RS7344

EP type number : 0 412 726 914

Governor

Governer design. : RQ275/1050PA999-6

Governer no. : 0 421 801 785

Cust. part No. : CCEP 5151A 66-230

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MIDR 062045 M41

Power KW

: 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

min. L/h : 145
Tolerance L/h : + 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

: 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 11.00

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: + 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery mark

*NW after s.o.d. : -0.15 Tolerance

Check

: +- 0.50

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel

Difference * CS : 2.25

11.00

CRT ZERO POSITION	1
Rack travel in man Tolerance man	: 11.60 : + 0.05
BASIC SETTING	
Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 287.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 275
Rack travel in mm Tolerance mm	n: −7.00 : ← 0.10
Del. quantity cm3/1000 strokes	: 37.0
Tolerance cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: ← 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
	NECTION PUMP
(B) SETTING OF IN WITH GOVERNOR	
	/EL
WITH GOVERNOR	

Rated speed rpm guide sleeve travel mm Tolerance mm	: 275 : 0.80 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 6.00 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm	: 396 : 2.99 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm	: 550 : 6.00 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 11.50 : ← 0.50
GUIDE SLEEVE POST	TION
control lever position degree Rated speed rpm	
Rack travel in man Tolerance man	: 20.00 : +- 0.80
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 600 : 1000 : 287.G
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: + 1.0 : + 4.0
cm3/1000 strokes Check tolerance cm3/1000s.	: 5.0 : 9.0

CONTROL LEVER

control lever position degree tolerance degree	: 274.0 : ← 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1135
rack travel mm Rated speed rpm Tolerance 1/min	
rack travel mm Tolerance mm Rated speed rpm	: -11.10 : +- 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 251.0 : ← 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -5.80
Testing:	
Rated speed rpm rack travel mm Tolerance mma	: 275 : -7.00 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: −9.50 : 365 : + 20
TORQUE CONTROL Rated speed rpm	: 600
Rated speed rpm Tolerance mm	: 1050 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : -3.65 : ← 0.30
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 560 : -1.25 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 320 : -2.75 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 225
Check speed 1/min Check speed 1/min	: > 80 : < 245
FUEL DELIVERY CHA	RACTERISTICS
Arieroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: +- 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
STARTING FUEL DEL	IVERY

Rated speed rpm : 100

H25

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

275 Rated speed rpm :

Rack travel in mm : -7.00 Tolerance m: \leftarrow 0.10

Del. quantity cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

: + 5.0 cm3/1000s.

Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance

12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 994

Injection pump

Pump designation : PES6P120A320RS7344

EP type number : 0 412 726 914

Governor

Governer design. : RQV275...1000PA1161

6overner no. : 0 421 814 100

Cust. part No. : CCEP 5143A 66-231

Customer-spec. information

Customer : RENAULT V.I.
Motor : MIDR 062045 E/41

Power KW : 249.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 11.00 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.15

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

mm : 21.00

and maximum rack

travel : 11.00 Difference * CS : 2.25

CRT ZERO POSITION

Rack travel in mm Tolerance mm	: 12.60 : + 0.05
BASIC SETTING	
Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 285.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: -7.70 : ← 0.10
Del. quantity cm3/1000 strokes Tolerance	: 28.0
cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE TRAV	/EL
Rated speed rpm guide sleeve	: 1086
travel mm	: 8.09
Tolerance mm	: +- 0.25
Rated speed rpm guide steeve	: 300
travel mm	: 1.66

Tolerance mm	: ← 0.25		
Rated speed rpm guide sleeve	: 793		
travel mm Tolerance mm	: 6.00 : ← 0.25		
Rated speed rpm guide sleeve	: 343		
travel mm Tolerance mm	: 2.33 : + 0.25		
Rated speed rpm guide sleeve	: 393		
travel mm Tolerance mm	: 2.95 : ← 0.25		
Rated speed rpm guide sleeve	: 500		
travel mm Tolerance mm	: 3.72 : ← 0.25		
Rated speed rpm guide sleeve	: 1410		
travel mm Tolerance mm	: 11.50 : + 0.50		
GUIDE SLEEVE POSITION			
control lever	· - 1		

position degree : - 1
Rated speed rpm : 1235

Rack travel in mm: 11.70 Tolerance mm: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000
Del. quantity
cm3/1000 strokes : 285.0
Tolerance

cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : + 4.0 Spreed

Tolerance

cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0

CONTROL LEVER

control lever position degree tolerance degree	: 120.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1086
rack travel mm Rated speed rpm Tolerance 1/min	: 1215
rack travel mm Tolerance mm Rated speed rpm	: -12.10 : +- 0.50 : 1300
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : ← 4.0
Setting point w/d	out bumper spring
Rated speed rpm	: 200
CRT umm sain.	: < -5.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : -7.70 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm	: 600
Rated speed rpm Tolerance mm	: 1000 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000

Pressure hPa rack travel mm Tolerance mm	: - : -3.35 : + 0.30
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 320 : -2.65 : ← 0.15
Pressure hPa rack travel mm Tolerance mm	: 640 : -0.70 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 225
Check speed 1/min Check	; > 80
speed 1/min	: < 245
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1000
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1000 : 1000 : 284.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1000 : 1000 : 284.0 : ÷ 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 1000 : 284.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 1000 : 284.0 : ÷ 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1000 : 1000 : 284.0 : ← 3.0 : ← 6.0 : ← 6.0 : 500 : 124.0 : ← 1.0 : ← 4.0

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : -7.70 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 28.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : - 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 04.02.98 Test oil : ISO 4113

Combination No. : 0 402 846 079

Injection pump

Pump designation : PE6P12OA32ORS8051 EP type number : 0 412 826 037

Governor

Governer design. : RQV300...1050PA1141

6overner no. : 0 421 814 091

Cust. part No. : 11031994 Ppe = 082

Customer-spec. information

Customer : VCE

Motor : TD122KFE
Power KW : 297.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 145 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no.	: 1	travel mm : 2.04 Tolerance mm : + 0.20
SETTING		Rated speed rpm : 1038
Rated speed rpm	: 700	+ guide sleeve + travel mm : 7.03 + Tolerance mm : + 0.25
Rack travel in mm	17 10	+
Tolerance mm		+ Rated speed rpm : 490 + guide sleeve + travel mm : 4.65
Del. quantity cm3/1000 strokes	: 298.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	: + 1.0	+ Rated speed rpm : 1300 + guide sleeve + travel mm : 11.50
Check tolerance		Tolerance mm : +- 0.50
cm3/1000s.	: + 4.0	GUIDE SLEEVE POSITION
Spreed		‡
Tolerance cm3/1000 strokes	: 8.0	control lever position degree : - 1 Rated speed rpm : 1190
Check tolerance cm3/1000s.	: 11.0	Rack travel in mm : 12.20 Tolerance mm : + 1.30
Rated speed rpm	: 325	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm		Rated speed rpm : 700 Aneroid pressure
Del. quantity cm3/1000 strokes	: 23.0	hPa : 1500 Del. quantity
Tolerance cm3/1000 strokes	: ← 3.0	+ cm3/1000 strokes : 298.0 + Tolerance - cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. Spreed	: ← 6.0	Check tolerance cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes	: 5.0	Spreed Tolerance
Check tolerance cm3/1000s.		cm3/1000 strokes : 8.0 Check tolerance
		cm3/1000s. : 11.0
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	CONTROL LEUED
		+ CONTROL LEVER
GUIDE SLEEVE TRAV	/EL	+ control lever + position degree : 64.0
Rated speed rpm guide sleeve	: 1131	tolerance degree : + 4.0
guide sleeve travel mm Tolerance mm	: 8.63 : ← 0.15	control lever position degree : 122.0
Rated speed rpm	: 325	tolerance degree : + 4.0

J04

RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 4.00 : 1180 : + 15 : 0.50 : + 0.50
LOW IDLE	
control lever position degree tolerance degree	: 64.0 : + 4.0
control lever position degree tolerance degree	: 12.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 225
CRT mm min.	: > 6.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 3.60 : ← 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.10 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.40 : +- 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 500

Pressure hPa rack travel mm Tolerance mm	: : : +-	1500 14.00 0.25	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	:	500 - 10.00 0.15	
MEASUREMENT			
Rated speed rpm	:	500	
Pressure hPa rack travel mm Tolerance mm	: : +-	850 2.90 0.20	
Pressure hPa rack travel mm Tolerance mm	: : : +-	300 0.25 0.05	
Start interlock			
Rated speed rpm Rated speed rpm	: >	100 230	
Check speed 1/min Check	: >	80	
speed 1/min	: >	250	
FUEL DELIVERY CHA	RACTE	RISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity	:	- 700	•

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		700
Del. quantity			
cm3/1000 strokes	:		269.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0
Spreed			
Tolerance			
cm3/1000 strokes	:		10.0
Check tolerance	•		
cm3/1000s.			14.0
(IID) 10005.	•		17.0

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	700
Del. quantity		
cm3/1000 strokes	:	188.0
Tolerance		

cm3/1000 strokes : +- 1.0

Check tolerance : +- 4.0 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm : : **←** 0.50 Tolerance mm

Del. quantity cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 3.60 : **←** 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s.: + 6.0

Spreed

Tolerance

5.0 cm3/1000 strokes :

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03,02,98 Test oil : ISO 4113

Combination No. : 0 402 946 027

Injection pump

Pump designation : PES6P120A320RS8047

EP type number : 0 412 926 029

Governor

Governer design. : RQV275...1250PA1312K

Governer no. : 0 421 815 966

Cust. part No. : CCEP 5160A 66-244

Customer-spec. information

Customer : RENAULT V.I.

: MIDR 06.02.26L71 Motor

Power KW : 141.7

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 145
Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 Tolerance mm : + 0.05 Tolerance mm

Check

tolerance mm: +-0.10

Rack travel in mm: 11.00 Tolerance mn: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.25 : +- 0.50 Tolerance

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00 :

and maximum rack

11.00 travel Difference * CS : 3.25

		L		
		{	Rated speed rpm guide sleeve	: 325
CRT ZERO POSITION		1	travel mma Tolerance mma	: 1.5 : ← 0.2
Rack travel in mm		‡	Rated speed rpm	: 923
Tolerance mm	0.05		guide sleeve travel mm Tolerance mm	: 6.7 : + 0.2
BASIC SETTING		1	Rated speed rpm	
Rated speed rpm	: 1250		guide sleeve travel mm	: 3.9
Del. quantity cm3/1000 strokes	: 183.0		Tolerance mm	: ← 0.2
Tolerance		‡	Rated speed rom guide sleeve	
cm3/1000 strokes	: + 1.0	 	travel mm Tolerance mm	: 13.5 : + 0.5
Check tolerance cm3/1000s.	: + 4.0	‡	CHINE CLEENE DOC	TTON
Spreed		 ‡	GUIDE SLEEVE POSI	LION
Tolerance cm3/1000 strokes	: 5.0		control lever position degree Rated speed rpm	
Check tolerance cm3/1000s.	: 9.0	 	Rack travel in man Tolerance man	
Rated speed rpm	: 325	Ŧ	FULL LOAD DELIVER	RY AT FULL
Rack travel in mm Tolerance mm		Ī	Rated speed rpm Aneroid pressure	: 1250
Del. quantity		Ţ	hPa	: 1600
Tolerance		Ŧ	Del. quantity cm3/1000 strokes	: 183.
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0	‡	Tolerance cm3/1000 strokes	
Spreed	: +- 6.0	‡	Check tolerance cm3/1000s.	: +- 4.
Tolerance cm3/1000 strokes	: 8.0	‡	Spreed Tolerance	_
Check tolerance cm3/1000s.	: 12.0	‡	cm3/1000 strokes Check tolerance	
(m) operation of the	IFOTTON DIMD	Ŧ	cm3/1000s.	: У.
(B) SETTING OF IN. WITH GOVERNOR	JECTION POMP	Ī	CONTROL LEVER	
GUIDE SLEEVE TRAVE			control lever	
Rated speed rpm		‡	position degree tolerance degree	: 295. : +- 4.
guide sleeve travel mm	: 9.96	‡	RATED SPEED	
Tolerance mm		+	rack travel mm	: -1.0

: 1.52 : ← 0.20 : 923 : 6.76 : + 0.25 : 550 : 3.92 : ← 0.25 : 1650 : 13.50 : + 0.50 ION : - 1 : 1430 : 11.10 : ← 2.70 AT FULL LOAD STOP : 1250 : 1600 : 183.0 : +- 1.0 : +- 4.0 : 5.0 : 9.0 : 295.0 : + 4.0 : -1.00

Rated speed rpm Tolerance 1/min	: 1330 : +- 15
rack travel mm Rated speed rpm Tolerance 1/min	: 1470
rack travel mm Tolerance mm Rated speed rpm	: +- 0.55
LOW IDLE	
control lever position degree tolerance degree	: 241.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -5.80
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : -7.20 : +- 0.10
Rated speed rpm	: 325
TORQUE CONTROL Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 650 : -2.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa Tolerance mm	: 1250 : 1600 : + 0.10
Rated speed rpm Pressure hPa	: 500 : -

MEACHDEMENT		
MEASUREMENT		
Rated speed rpm	: 1250	
Pressure hPa rack travel mm Tolerance mm	: 240 : −3.10 : ← 0.20	
Pressure hPa rack travel mm Tolerance mm	: 520 : -1.20 : +- 0.05	
Start interlock		
Rated speed rpm Rated speed rpm	: > 175 : < 240	
Check speed 1/min	: > 155	
Check speed 1/min	: < 260	
Aneroid pressure	4 / 5 5	
Aneroid pressure hPa Rated speed rom Del. quantity	: 1600 : 650	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1600 : 650 : 172.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1600 : 650 : 172.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1600 : 650 : 172.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 650 : 172.0 : ← 3.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1600 : 650 : 172.0 : +- 3.0 : +- 6.0	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm	: 1600 : 650 : 172.0 : +- 3.0 : +- 6.0 : -3.25 : +- 0.25	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1600 : 650 : 172.0 : +- 3.0 : +- 6.0 : -3.25 : +- 0.25	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity	: 1600 : 650 : 172.0 : +- 3.0 : +- 6.0 : -3.25 : +- 0.25	

Rated speed rpm : 100

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Del. quantity cm3/1000 strokes : 113.0 Tolerance cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: -7.20
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 39.0
Tolerance
cm3/1000 strokes: + 1.0
Check tolerance
cm3/1000s: + 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 10.02.98 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 504

Injection pump

Pump designation: PES5P120A720LS7453

EP type number ± F 000 400 203

Governor

Governer design. : RQV300...950PA1264

Governer no. : 9 420 080 393

Cust. part No. : 0270740002

Customer-spec. information Customer : MBB

: OM 449 LA-EUROII Motor

Power KW : 235.4

TEST BENCH REQUIREMENTS

: 4.1 Inlet line

Test oil inlet

temp. "C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 075

8.0 Outside diameter :

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : **←** 0.05 Check

tolerance mm

: +- 0.10

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm: 13.60 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 265.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000S.

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance cm3/1000s. : 9.0	Rack travel in mm: 16.50 Tolerance mm: + 1.30
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 6.20 Tolerance mm: + 0.10 Del. quantity	Rated speed rpm : 950 Aneroid pressure hPa : 1500
cm3/1000 strokes : 17.0 Tolerance	+ Del. quantity + cm3/1000 strokes : 265.0
cm3/1000 strokes : +- 3.0 Check tolerance	+ Tolerance + cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0 Spreed Tolerance	+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed
cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	+ Tolerance + cm3/1000 strokes : 5.0 + Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : 9.0
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	t control lever 115.0
Rated speed rpm : 700 guide sleeve	tolerance degree : + 6.0
travel mm : 5.45 Tolerance mm : + 0.25	+ RATED SPEED + rack travel mm : 12.55 + Rated speed rpm : 1035
Rated speed rpm : 1050 guide sleeve travel mm : 7.80	Tolerance 1/min : + 5 + rack travel mm : 4.00
Tolerance mm : + 0.10	Rated speed rpm : 1140 Tolerance 1/min : + 15
Rated speed rpm : 300 guide sleeve travel mm : 0.75	dick travel mm : 0.50 colerance mm : +- 0.50
Rated speed rpm : 500	+ Rated speed rpm : 1250
guide sleeve travel mm : 3.55	
Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1165 guide sleeve	control lever
travel mm : 9.45 Tolerance mm : + 0.25	position degree : 78.0 tolerance degree : +- 6.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
THE PERSON OF TH	Rated speed rpm : 100
control lever position degree : - 1	crt mm min. : > 10.00
Rated speed rpm : 1120	+ Testing:

Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.20 : + 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 950 : 13.60 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 14.00 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 14.00 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Fressure hPa rack travel mm Tolerance mm	: 500 : 7500 : 13.60 : + 0.05
Rated speed rpm Fressure hPa	: 500
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 500 : 1.05 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 900 : 2.60 : ← 0.10
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min	: > 80

Check speed 1/min	:	<	240
FUEL DELIVERY CHAI	RAC	TER	RISTICS
Aneroid pressure			500
hPa Rated speed rpm	:		500 600
Del. quantity	•		000
cm3/1000 strokes	:		296.5
Tolerance	•		
cm3/1000 strokes	:	+-	2.0
Check tolerance			- 0
cm3/1000s. Spreed	:	+-	5.0
Spreed Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0
Aneroid pressure			
hPa	:	1	500
Rated speed rpm	:		800
rack travel mm Tolerance mm	:	.	14.00 0.05
Del. quantity	•	τ-	0.05
cm3/1000 strokes	:		285.5
Tolerance	•		
cm3/1000 strokes	:	+-	2.0
Check tolerance	_	,	5 0
cm3/1000s. Spreed	:	+-	5.0
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0
Aneroid pressure			
hPa	:		-
Rated speed rpm	:		500
Del. quantity cm3/1000 strokes	:		141.5
Tolerance	•		171.7
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0
Spreed Tolerance			
cm3/1000 strokes	•		5.0
Check tolerance	•		2.0
cm3/1000s.	:		9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 252.5

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : \leftarrow 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 6.20 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 17.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.11.97 Edition : ISO 4113 Test oil

: F 000 409 007 Combination No.

Injection pump

Pump designation : PES6P110A720RS3389 : F 000 400 002

EP type number

Governor

Governer design. : RQV300...1300PA1343K

: F 000 420 500 Governer no.

: 0280743002 Cust. part No.

Customer-spec. information

: MBB Customer

: OM366LA-EURO II Motor

Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 417 413 047 Overflow valve

Inlet press. bar : 2.3

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 4.30 : - 0.05 Toterance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 21.00

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.30 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 122.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

4.0 cm3/1000s.: +-

Spreed

Tolerance cm3/1000 strokes	: 4.0	+ Aneroid pr + hPa + Del. quant
Check tolerance		cm3/1000 s
cm3/1000s.	: 7.5	+ Tolerance
		_ cm3/1000 s
		+ Check tole
		+ cm3/1000s.
Rated speed rpm	: 300	+ Spreed
		+ Tolerance
Rack travel in m		+ cm3/1000 s
Tolerance mm	: ← 0.20	+ Check tole
Del. quantity		+ cm3/1000s.
cm3/1000 strokes	: 13.0	+
Tolerance		+
cm3/1000 strokes	: ← 2.5	. +
Check tolerance		+ CONTROL LE
cm3/1000s.	: - 5.0	+
Spreed		+ control le
Tolerance		+ position d
cm3/1000 strokes	: 4.5	+ tolerance
Check tolerance		+
cm3/1000s.	: 7.5	+ RATED SPEE
		+ rack trave
		+ Rated spee
(B) SETTING OF I	NJECTION PUMP	+ Tolerance
WITH GOVERNOR		+
		+ rack trave
		+ rack trave + Rated spee
GUIDE SLEEVE TRA	 VEL	
		Rated spee
Rated speed rpm		Rated spee Tolerance rack trave
Rated speed rpm guide sleeve	: 1350	Rated spee Tolerance rack trave Tolerance
Rated speed rpm guide sleeve travel mm	: 1350 : 8.50	Rated spee Tolerance rack trave Tolerance
Rated speed rpm guide sleeve travel mm	: 1350	Rated spee Tolerance rack trave Tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : + 0.10	Rated spee Tolerance rack trave Tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 1350 : 8.50 : + 0.10	Rated spee Tolerance rack trave Tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1350 : 8.50 : ← 0.10 : 300	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05	Rated spee Tolerance rack trave Tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1350 : 8.50 : ← 0.10 : 300 : 1.05	Rated spee Tolerance rack trave Tolerance Rated spee
Tolerance mm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500 : 3.05 : ← 0.25	Rated spee Tolerance rack trave Tolerance Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500 : 3.05 : ← 0.25	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500 : 3.05 : ← 0.25 : 700	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500 : 3.05 : ← 0.25 : 700	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : ← 0.10 : 300 : 1.05 : ← 0.25 : 500 : 3.05 : ← 0.25 : 700	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700 : 4.35 : + 0.25	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700 : 4.35 : + 0.25	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700 : 4.35 : + 0.25 : 1780	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po Rated spee CRT mm min Testing:
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700 : 4.35 : + 0.25 : 1780 : 13.50	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control te position d tolerance Setting po Rated spee CRT mm min Testing: Rated spee
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel rem	: 1350 : 8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700 : 4.35 : + 0.25 : 1780 : 13.50	Rated spee Tolerance rack trave Tolerance Rated spee LOW IDLE control le position d tolerance Setting po Rated spee

Aneroid pressure hPa	: 1000
Del. quantity cm3/1000 strokes	: 122.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed Toler a nce	
cm3/1000 strokes Check tolerance	: 4.0
cm3/1000s.	: 7.5
CONTROL LEVER	
control lever position degree	: 109.0
tolerance degree	
RATED SPEED rack travel mm	: 13.30
Rated speed rpm	: 1350
Tolerance 1/min	: +- 5
rack travel mm Rated speed rpm	: 4.00 : 1515
Tolerance 1/min	: +- 15
rack travel mm Tolerance mm	: 0.50 : +- 0.50
Rated speed rpm	: 1700
LOW IDITE	
control lever	
control lever	: 64.0 : +- 4.0
control lever position degree tolerance degree	ut bumper spring
control lever position degree tolerance degree Setting point w/o	ut bumper spring : 200
control lever position degree tolerance degree Setting point w/o Rated speed rpm	ut bumper spring : 200
control lever position degree tolerance degree Setting point w/o Rated speed rpm CRT mm min. Testing:	to the bumper spring: 200 5 - 6.00
control lever position degree tolerance degree Setting point w/o Rated speed rpm	to the bumper spring: 200 5 - 6.00
control lever position degree tolerance degree Setting point w/o Rated speed rpm CRT mm min. Testing:	: 200 :> 6.00 :> 5.50 :+ 0.20

Rated speed rpm : 1300

TORQUE CONTROL	. 4700	+	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 1500	†		
rack travel mm	: 14.30	+		
rack travel mm Tolerance mm	: +- 0.05	+	Aneroid pressure	
		1	hPa	: 1000
Rated speed rpm	: 600	1	hPa Rated speed rpm	• 600
nated speed this	: 12.90	1		
rack travel mm Tolerance mm	12.70	T	cm3/1000 strokes	. 0(0
loterance ma	: ← 0.10	†		: 90.0
		+	Tolerance	
Rated speed rpm	: 1000	+	cm3/1000 strokes	: +- 2.0
rack travel mm	: 13.85	+	Check tolerance	
rack travel mm Tolerance mm	: +- 0.05	+	cm3/1000s.	: 5.0
		1		
Rated speed rpm	• 200	1		
mark travel	: 800 : 13.25 : ← 0.10	· T	Anonoid property	
rack travel mm Tolerance mm	13.25	Ť	Aneroid pressure	4060
iolerance mm	: ← 0.70	†	hPa	: 1000
		+	Rated speed rpm	: 1000
Rated speed rpm	: 700	+	rack travel mm Tolerance mm	: 13.85
rack travel mm	: 13.10	1	Tolerance mm	: +- 0.05
Tolerance mm	· + 0 10	1	Del. quantity	
TOTEL SHIPE HAD	0.10		cm3/1000 strokes	. 109.0
		**		100.0
			Tolerance	
ANEROID/ALTITUDE		t	cm3/1000 strokes	: +- 2.0
COMPENSATOR TEST		+	Check tolerance	
		+	cm3/1000s.	: ← 5.0
		1		
SETTING		Ĺ		
20111149		}	Aneroid pressure	
5.1.1	r00	Ť		. 4000
Rated speed rpm	: 500	†	hPa	: 1000
Pressure hPa		+	Rated speed rpm	
rack travel mm	: 12.90	+	Del. quantity	
Tolerance ma	: +- 0.05	+	cm3/1000 strokes	: 99.5
		1	Tolerance	
Peted speed spe	500	1	cm3/1000 strokes	· +- 2 N
Rated speed rpm Pressure hPa	. 500	<u>T</u>	Check tolerance	
rressure nra	: -	Ť	ineck toterance	
		†	cm3/1000s.	: +- 5.0
MEASUREMENT		+		
		+		
Rated speed rpm	: 500	+	Aneroid pressure	
		+	hPa	: 1000
Pressure hPa	: 300	+	Rated speed rpm	: 700
rack travel mm	: 1.20	1	Del. quantity	
Tolerance mm	: ← 0.05	Ţ	cm3/1000 strokes	: 97.0
Oter arice min	رن.ن	T	Tolerance	, ,,,,
	/00	Ŧ		
Pressure hPa	: 600	+	cm3/1000 strokes	: +- 2.0
rack travel mm	: 3.60	+	Check tolerance	
Tolerance mm	: + 0.10	+	cm3/1000s.	: ← 5.0
		+		
		 +		
Start interlock		+	Aneroid pressure	
Jan J. Hilber Swell		1	hPa	: -
Pated aread are	: > 100	1	Rated speed rpm	500
Rated speed rpm		T		• 500
Rated speed rpm	: < 180	†	Del. quantity	. 70.0
		+	cm3/1000 strokes	: 30.0
Check		+	Tolerance	
speed 1/min	: > 80	+	cm3/1000 strokes	: ← 1.0
Check		1	Check tolerance	
speed 1/min	: < 220	1	cm3/1000s.	: +- 4.0
Specu i/mili		'	J.,, , , , , , , , , , , , , , , , , , ,	7.0

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Spreed Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 7.5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.00 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 136.5

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.50 Folerance mm : ← 0.20

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : + 2.5

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.10.97 Test oil : ISO 4113

Combination No. : F 000 409 104

Injection pump

Pump designation : PES6P12OA12ORS7451

EP type number : F 000 400 202

Governor

Governer design. : RQV350...1100PA1375K

Governer no. : F 000 420 501

Cust. part No. :

Customer—spec. information Customer : CUMMINS Motor : 6CTAA Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.30 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

kack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : 7.70 Tolerance : +- 0.10

Check

tolerance NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

1100

Rack travel in mm	. 17 70	Poted speed spe	: 420
		+ Rated speed rpm	: 420
Tolerance mm	: 0.05	f guide sleeve	: 4.28
Dal mundidu		+ travel mm	: + 0.25
Del. quantity	. 14/ 0	+ Tolerance mm	: + 0.23
cm3/1000 strokes	: 104.0	T Dated and and	. 4700
		+ Rated speed rpm	: 1380
Tolerance	. 4.0	+ guide sleeve	47.50
cm3/1000 strokes	: + 1.0	+ travel mm	: 13.50
Charle Addans		+ Tolerance mm	: + 0.50
Check tolerance		T	
cm3/1000S.	: +- 4.0	CHAPE STEENE BOST	TION
Command		+ GUIDE SLEEVE POSI	TON
Spreed		†	
Tolonomeo		T control lever	
Tolerance cm3/1000 strokes	: 5.0	+ position degree	: - 1
CHS/ 1000 Strokes	; 5.0		
Chask dalamana		+ Rated speed rpm	: 1200
Check tolerance		T Book travel de	. 12 70
cm3/1000s.	: 9.0	+ Rack travel in mm	
		† Tolerance mm	: +- 2.00
		Ι	
Rated speed rpm	: 350	FULL LOAD DELIVER	Y AT FULL LOAD STOP
mateu opeca (pm	. 030	+	
Rack travel in mm	: 4.80	+ Rated speed rpm	: 1100
Tolerance mm	: +- 0.10	+ Aneroid pressure	
Del. quantity		+ hPa	: 1500
cm3/1000 strokes	: 18.0	- Del. quantity	
Tolerance	, , , , , , , , , , , , , , , , , , , ,	+ cm3/1000 strokes	: 164.0
cm3/1000 strokes	: + 3.0	+ Tolerance	
Check tolerance		+ cm3/1000 strokes	: + 1.0
cm3/1000s.	: ← 5.0	+ Check tolerance	· · · · ·
Spreed		- cm3/1000s.	: +- 4.0
Tolerance		Spreed	
cm3/1000 strokes	: 7.0	+ Tolerance	
Check tolerance		cm3/1000 strokes	: 5.0
cm3/1000s.	: 11.0	+ Check tolerance	
J	,,,,,	+ cm3/1000s.	: 9.0
		+	
(B) SETTING OF IN	JECTION PUMP	+	
WITH GOVERNOR		+	
		+ CONTROL LEVER	
CHIEF OF COME TO STATE	C 1	†	
GUIDE SLEEVE TRAV	tL	+ control lever	. 40.0
Ondad	. 1150	+ position degree	
Rated speed rpm	: 1159	+ tolerance degree	; - 4. U
guide sleeve	. 40.37	T ambuel terrer	
travel mm	: 10.27	+ control lever	. 427.0
Tolerance mm	: + 0.15	+ position degree	: 125.0
narad : 4	. 750	+ tolerance degree	: +- 4.0
Rated speed rpm	: 350	T	
guide sleeve	4.07	+ RATED SPEED	. 42.70
travel mm	: 1.93	+ rack travel mm	: 12.30
Tolerance mm	: +- 0.20	+ Rated speed rpm	
makad . A	. 740	† Tolerance 1/min	: +- 5
Rated speed rpm	: 710	T made #=====	. / 00
guide sleeve	. 570	+ rack travel mm	
travel mm	: 5.79	+ Rated speed rpm	
Tolerance mm	: +- 0.25	+ Tolerance 1/min	: +- 15

A t 1			4400
Check		+ Rated speed rpm	1100
speed 1/min	: ← 20	Pressure hPa	. 12.70
	. 0.50	rack gravel mm Tolerance mm	13.30
rack travel mm	: 0.50 : + 0.50	+ Toterance mm	: 0.05
Tolerance mm Rated speed rpm	• 1350	I Pated speed rom	• 1100
regred speed i più	. 1330	Rated speed rpm Pressure hPa	• -
		1 7 7 63547 6 1.11 4	•
		→ MEASUREMENT	
		+	
LOW IDLE		+ Rated speed rpm	: 1100
		†	470
		Pressure hPa	: 170
control lever	. 77.0	rack travel mm	
position degree tolerance degree	: /3.0 : / 0	+ Tolerance mm	: +- 0.20
toterance degree	. *** 4.0	T Pressure hPa	• 330
control lever		- rack travel ma	. 2.20
position degree	: 21.0	+ Tolerance mm	: + 0.05
tolerance degree	: +- 4.0	1	
toto, and and			
Setting point w/o	ut bumper spring	+ Start interlock	
.	250	± 2.4 1 and 1 and	. > 400
Rated speed rpm	: 250	Rated speed rpm Rated speed rpm	: > 100
CRT mm min.	. > 7.70	+ kated speed rpm	: < 200
CKI MAN MIT.	: > 7.70	Check	
Testing:		+ speed 1/min	• > 80
resting.		+ Check	. > 00
Rated speed rpm	: 350	speed 1/min	: < 300
rack travel mm		+	
Tolerance mm	: +- 0.10	+	
		+ FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 350	+	
		Aneroid pressure	
TORQUE CONTROL		+ hPa	: 1500
Rated speed rpm	• 1100	Rated speed rpm	
rack travel mm	: 13.30	+ Del. quantity	
Tolerance mm		+ cm3/1000 strokes	: 155.0
		+ Tolerance	
Rated speed rpm	: 750	+ cm3/1000 strokes	: +- 3.0
rack travel mm	: 12.95	+ Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	: ← 0.10	+ cm3/1000s.	: +- 6.0
		- Spreed	
Rated speed rpm rack travel mm Tolerance mm	: 900	+ Tolerance	40.0
rack travel mm	: 13.05	+ cm3/1000 strokes	
Tolerance mm	: +- 0.15	+ Check tolerance	
Dated oned and	. 400	cm3/1000s.	: 16.0
Rated speed rpm	· 12 70	Ι	
rack travel mm Tolerance mm	· + 0.15	I rack travel mm	: 13.05
TOTAL MICE MIN	0.13	rack travel mm Tolerance mm	: + 0.15
		1	
ANEROID/ALTITUDE		+	
COMPENSATOR TEST		+ Aneroid pressure	
		+ hPa	: -
		Rated speed rpm	: 500
SETTING		+ Del. quantity	. 407.0
		+ cm3/1000 strokes	: 107.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 185.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : - 24.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 4.80 : + 0.10 Tolerance man

Del. quantity cm3/1000 strokes : 18.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

: +- 5.0 cm3/1000S.

Spreed

Tolerance

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.11.97 Edition : ISO 4113 Test oil

Combination No. : F 000 409 105

Injection pump

Pump designation : PES6P120A120RS7350 . EP type number : 0 412 726 921

Governor

Governer design. : RQV400...1150PA1376K

Governer no. : F 000 420 502

Cust. part No. : 3933298

Customer-spec. information : CUMMINS Customer Motor : 6BTAA Power KW : 145.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 : **←** 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mp : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : + 3,60 : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 12.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Start of delivery mark

*NW after s.o.d. : 5.75 : +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.00 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 167.5

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	+ Rated speed rpm : 1500
Tolerance	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 9.40
Check tolerance	† Tolerance mm : + 0.20
cm3/1000s. : +- 4.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	†
Talanama	Rated speed rpm : 1150
Tolerance cm3/1000 strokes : 8.0	+ Aneroid pressure + hPa : 800
tingy rood strokes . 0.0	Del. quantity
Check tolerance	+ cm3/1000 strokes : 167.5
cm3/1000s. : 12.0	+ Tolerance
	cm3/1000 strokes : + 1.0
•	+ Check tolerance + cm3/1000s. : +- 4.0
Raited speed rpm : 420	Spreed
nacea opeca i pin . Teo	+ Tolerance
Rack travel in mm : 6.10	+ cm3/1000 strokes : 8.0
Tolerance mm : + 0.20	+ Check tolerance
Del. quantity	+ cm3/1000s. : 12.0
cm3/1000 strokes : 13.0 Tolerance	†
cm3/1000 strokes : +- 3.0	
Check tolerance	↓ CONTROL LEVER
cm3/1000s. : + 5.0	+
Spreed	+ control lever
Tolerance	position degree : 118.0
cm3/1000 strokes : 4.0 Check tolerance	tolerance degree : +- 6.0
cm3/1000s. : 8.0	T RATED SPEED
	+ rack travel mm : 13.00
	+ Rated speed rpm : 1380
(B) SETTING OF INJECTION PUMP	† Tolerance 1/min : + 15
WITH GOVERNOR	+ Check
	speed 1/min : +- 20
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
	+ Rated speed rpm : 1465
Rated speed rpm : 1250	+ Tolerance 1/min : + 5
guide sleeve	+ Check
travel mm : 7.10 Tolerance mm : + 0.10	speed 1/min : +- 10
loterance min : + 0.10	T rack travel mm : 0.50
Rated speed rpm : 400	+ Tolerance mm : +- 0.50
guide sleeve	Rated speed rpm : 1550
travel mm : 1.50	+
Tolerance mm : + 0.10	†
Rated speed rpm : 800	I
guide sleeve	LOW IDLE
travel mm : 4.50	+
Tolerance mm : + 0.20	†
550	+ control lever
Rated speed rpm : 550	<pre>position degree : 72.0 tolerance degree : + 6.0</pre>
guide sleeve travel mm : 3.30	T cotter arite degree 0.0
Tolerance nm : + 0.20	Control lever difference
	+ Grad : 46.0
	•

tolerance degree	: +- 6.0
Setting point w/ou	nt bumper spring
Rated speed rpm	: 300
CRT mm min.	: > 8.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 420 : 6.10 : ← 0.20
Rated speed rpm	: 420
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1150 : 14.00 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 300 : 12.60 : + 0.20
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 14.00 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	
Rated speed rpm Pressure hPa	: 1150 : -
MEASUREMENT	
Rated speed rpm	: 1150
Pressure hPa rack travel mm Tolerance mm	: 250 : 1.10 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 470 : 3.10 : + 0.05

Rated speed rpm Rated speed rpm	: > 100 : < 325	
Check speed 1/min	: > 80	
Check speed 1/min	: < 335	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa	: 800 : 800	
Rated speed rpm Del. quantity	: 000	
cm3/1000 strokes	: 141.0	
Tolerance cm3/1000 strokes	: ← 3.0	
Check tolerance cm3/1000s.	: +- 6.0	
Spreed	· • • • • • • • • • • • • • • • • • • •	
Tolerance cm3/1000 strokes	: 8.0	
Check tolerance cm3/1000s.	: 12.0	
CIRC/ 10000.	. 12.0	
rack travel mm	: 14.00	
Tolerance mm	: + 0.10	
Aneroid pressure		
hPa	: - : 1150	
Rated speed rpm Del. quantity	: 1150	
cm3/1000 strokes	: 80.5	
Tolerance cm3/1000 strokes	: +- 2.0	
Check tolerance		
cm3/1000s.	: +- 4.0	
	······································	
STARTING FUEL DEL	.IVERY	
Rated speed rpm rack travel mm	: 100 : 13.75	
Tolerance mm	: +- 0.50	
Del. quantity		
cm3/1000 strokes Tolerance	: 155.0	
cm3/1000 strokes	: +- 20.0	
Check tolerance cm3/1000s.	: ← 25.0	

LOW IDLE

Rated speed rpm	:	420
Rack travel in mma Tolerance mma Del. quantity	: +-	6.10 0.20
cm3/1000 strokes	:	13.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000S. Spreed	: +-	5.0
Tolerance		
cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.11.97 : ISO 4113

Combination No. : F 000 409 106

Injection pump

Pump designation : PES6P12OA12ORS7416 EP type number : 0 412 726 959

Governor

Governer design. : RQV400...1250PA1378K

Governer no. : F 000 420 503

Cust. part No. : 3933297

Customer-spec. information Customer : CUMMINS : 68TA-A Motor : 130.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

: +- 2.0

Tolerance *C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

: 1 680 750 015 Test lines

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 : + 0.05Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 6.25 : **←** 0.50 Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.65 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 160.5

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Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s: 12.0 Rated speed r Aneroid press hPa Del. quantity cm3/1000 stro cm3/1000 stro Check tolerance cm3/1000 stro Check tolerance	: 11.50 : + 0.50 LIVERY AT FULL LOAD STO rpm : 1250 sure : 800
cm3/1000 strokes : + 1.0	: 11.50 : + 0.50 LIVERY AT FULL LOAD STO rpm : 1250 sure : 800
Cm3/1000s. : + 4.0 Spreed Tolerance	rpm : 1250 sure : 800
Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 Rated speed r Aneroid press hPa bel. quantity cm3/1000 stro cm3/1000 stro Check tolerance cm3/1000 stro Check tolerance	rpm : 1250 sure : 800
Tolerance cm3/1000 strokes: 8.0 hPa bel. quantity cm3/1000s. : 12.0 Tolerance cm3/1000 strokes: 12.0 check tolerance cm3/1000 strokes: 12.0 tolerance cm3/1000 strokes: 12.0 check tolerance cm3/1000 strokes: 12.0 tolerance cm3/1000	sure : 800
cm3/1000 strokes : 8.0 hPa Del. quantity cm3/1000s. : 12.0 Tolerance cm3/1000 stro Check tolerar	: 800 Y
Check tolerance	7
- Check tolerar	okes : 160.5
	okes : +- 1.0
Rated speed rpm : 420 + Spreed + Spreed	
Tolerance	
Rack travel in mm : 6.00 + cm3/1000 stro	
Tolerance mm : + 0.10 + Check tolerar Del. quantity + cm3/1000s.	
cm3/1000 strokes : 15.0 + Tolerance +	
cm3/1000 strokes : + 3.0 +	R
cm3/1000s. : + 5.0 + control lever	
olerance + position degree	
cm3/1000 strokes : 4.0 + tolerance deg	gree : + 6.0
Check tolerance + RATED SPEED + RATED SPEED	
+ rack travel m	
Rated speed	
(B) SETTING OF INJECTION PUMP + Tolerance 1/m WITH GOVERNOR +	
+ rack travel r	
Rated speed	
GUIDE SLEEVE TRAVEL + Tolerance 1/r	min : +- 5
Rated speed rpm : 1329 + rack travel r guide sleeve + Tolerance mm	
travel mm : 7.83 + Rated speed	
Tolerance mm : + 0.15	, , , , , , , , , , , , , , , , , , , ,
Rated speed rpm : 400	
travel mm : 1.44 LOW IDLE	
Tolerance mm : + 0.20	
Rated speed rpm : 939 control level	
guide sleeve + position degr travel mm : 5.18 + tolerance deg	· · · ·
Tolerance mm : + 0.25 +	3
Control lever	
Rated speed rpm : 640 + Grad	: 46.0
	gree : +- 6.0
guide sleeve + tolerance deg travel mm : 3.56 +	

STOP

	700			
Rated speed rpm	: 300	†	Check speed 1/min	: > 80
CRT mm min.	: > 5.80	Ŧ	Check	
Testing:		‡	speed 1/min	: < 290
Rated speed rpm rack travel mm Tolerance mma	: 420 : 5.00 : +- 0.10	1	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm		+	Aneroid pressure hPa Rated speed rpm	: 800 : 800
TORQUE CONTROL	: 1250		Del. quantity cm3/1909 strokes Tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 13.65	Ī	cm3/1000 strokes Check tolerance	: +- 3.0
Rated speed rom	: 800	‡	cm3/1000s. Spreed	: +- 6.0
rack travel mm Tolerance mm	: + 0.10	1	Tolerance cm3/1000 strokes Check tolerance	: 8.0
Rated speed rpm rack travel mm	: 11.60	‡	cm3/1000s.	: 12.0
Tolerance mm	: 0.20	‡	rack travel mm Tolerance mm	: 11.60 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST		‡	Ananatal masasuna	
SETTING		‡	Aneroid pressure hPa Rated speed rpm	: - : 1250
Rated speed rpm Pressure hPa rack travel mm	: 800 : 13.65	† † †	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	
Tolerance mm Rated speed rpm Pressure hPa		† †	Check tolerance cm3/1000s.	: +- 4.0
MEASUREMENT		‡	STARTING FUEL DELIVERY	
Rated speed rpm	: 1250	I	Set starting CRT	at K-cam.
Pressure hPa rack travel mm Tolerance mm	: 180 : 1.10 : + 0.05	+	Rated speed rpm rack travel mm Tolerance mm	: 100 : 14.10 : ← 0.50
Pressure hPa rack travel mm Tolerance mm	: 3.30	+++++++++++++++++++++++++++++++++++++++	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 155.0
Start interlock		+	Check tolerance cm3/1000s.	: + 25.0
Rated speed rpm Rated speed rpm	: > 100 : < 280	‡		
		+	LOW IDLE	

Rated speed rpm	:		420
Rack travel in mm Tolerance mm Del. quantity	:	+	6.00 0.10
cm3/1000 strokes Tolerance	:		15.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s. Spreed	:	+-	5.0
Tolerance cm3/1000 strokes	:		4.0
Check tolerance cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 29.01.98 : ISO 4113

Combination No. : F 000 409 201

Injection pump

Pump designation : PES6A95D410RS2918 EP type number : F 000 400 400

Governor

Governer design. : RQV300...1300AB1324 Governer no. : F 000 420 301

Cust. part No. : 3760747202

Customer-spec. information

Customer : MBB : OM 366 A Motor Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C : **←** 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

173.5 bar : **←** 1.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.05 : +- 0.05 Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.25 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 81.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance cm3/1000 strokes	: 3.5	
Check tolerance cm3/1000S.	: 8.0	-
Rated speed rpm	: 300	
Rack travel in mm		
Tolerance mm	: + 0.10	
Del. quantity cm3/1000 strokes	: 19.0	
Tolerance	• 17.0	
cm3/1000 strokes	: + 2.0	
Check tolerance cm3/1000s.		
Spreed Tolerance	: +- 4.5	
cm3/1000 strokes	: 5.5	
Check tolerance	: 9.0	
Jay/ (OUU).	· 7.U	
TITLE CLEENE TOWN	E1	
Rated speed rpm	EL : 1500	
Rated speed rpm guide sleeve	: 1500	
Rated speed rpm guide sleeve travel mmn	: 1500 : 8.95	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1500	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1500 : 8.95	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1500 : 8.95 : + 0.05 : 300	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1500 : 8.95 : ← 0.05	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : + 0.05 : 300 : 1.05 : + 0.25	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1500 : 8.95 : + 0.05 : 300 : 1.05 : + 0.25 : 500	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1500 : 8.95 : + 0.05 : 300 : 1.05 : + 0.25 : 500 : 2.55	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1500 : 8.95 : + 0.05 : 300 : 1.05 : + 0.25 : 500	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 1500 : 8.95 : ← 0.05 : 300 : 1.05 : ← 0.25 : 500 : 2.55 : ← 0.25	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1500 : 8.95 : ← 0.05 : 300 : 1.05 : ← 0.25 : 500 : 2.55 : ← 0.25 : 750	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : ← 0.05 : 300 : 1.05 : ← 0.25 : 500 : 2.55 : ← 0.25 : 750 : 4.65	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : ← 0.05 : 300 : 1.05 : ← 0.25 : 500 : 2.55 : ← 0.25 : 750	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : + 0.05 : 300 : 1.05 : + 0.25 : 500 : 2.55 : + 0.25 : 750 : 4.65 : + 0.10	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : + 0.05 : 300 : 1.05 : + 0.25 : 500 : 2.55 : + 0.25 : 750 : 4.65 : + 0.10	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Guide sleeve travel mm Guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : ← 0.05 : 300 : 1.05 : ← 0.25 : 500 : 2.55 : ← 0.25 : 750 : ← 4.65 : ← 0.10	
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm Guide sleeve travel mm Tolerance mm	: 1500 : 8.95 : ← 0.05 : 300 : 1.05 : ← 0.25 : 500 : 2.55 : ← 0.25 : 750 : ← 4.65 : ← 0.10	

Tolerance mm	: ← 1.30
FULL LOAD DELIVER	RY AT FULL LOAD STOP
Rated speed rpm	: 1300
Aneroid pressure	000
hPa Del. quantity	: 800
cm3/1000 strokes	: 81.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 3.0
Spreed	• • 5.0
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 8.0
CIBO/ 10003.	. 5.0
CONTROL LEVER	
control lever	
position degree	: 111.0
tolerance degree	: +- 4.0
RATED SPEED	
rack travel mm	: 10.20
Rated speed rpm	: 1365
Tolerance 1/min	: ← 5
rack travel mm	: 4.00
Rated speed rpm	: 4.00 : 1505
Tolerance 1/min	: +- 15
	0.50
rack travel mm	: 0.50 : +- 0.50
Rated speed rpm	
reaced speed i piii	. 1040
LOW IDLE	
control lever	. 77.0
position degree tolerance degree	· (3.0 : +- 4.0
	out bumper spring
Rated speed rpm	
CRT mm min.	: > 9.80
Testing:	
Rated speed rpm	: 300

rack travel mm Tolerance mm		<u> </u>
Rated speed rpm	: 585	+ FUEL DELIVERY CHARACTERISTICS +
		rack travel mm : 11.50
TORQUE CONTROL		Tolerance mm : +- 0.05
Rated speed rpm		+
rack travel mm	: 11.25	+
Tolerance mm	: +- 0.05	+ Aneroid pressure
		hPa : 800 + Rated speed rpm : 800
lated speed rpm	: 750	+ Rated speed rpm : 800
ack travel mm olerance mm	: 12.05	Del. quantity cm3/1000 strokes : 81.0
olerance mm	: +- 0.05	
		† Tolerance
lated speed rpm	: 950	. + cm3/1000 strokes : +- 2.0
ated speed rpm ack travel mm olerance mm	: 11.50	+ Check tolerance
olerance mm	: +- 0.05	+ cm3/1000s. : +- 4.0
		+ Spreed
ated speed rom	: 800	- Tolerance
ack travel mm	: 12.05	+ cm3/1000 strokes : 5.0
rolerance mm	: ← 0.05	+ Check tolerance
		+ cm3/1000s. : 8.0
NICONTO /AL TYTUS		+
NEROID/ALTITUDE OMPENSATOR TEST		Aneroid pressure
OF LITOR TON TEST		hPa : -
		Rated speed rpm : 500
ETTING		Del. quantity
C111140		+ cm3/1000 strokes : 42.5
ated speed rpm	• 500	Tolerance
ressure hPa	: 800	cm3/1000 strokes : +- 1.0
eck traval mm	. 12.00	Check tolerance
ack travel mm olerance mm	· +- 0.05	+ cm3/1000s. : +- 3.0
occi di lee ilik	0.05	Spreed
ested onced none	: 500	Tolerance
Rated speed rpm Pressure hPa	. 20	- cm3/1000 strokes : 3.5
ressure in a	•	Check tolerance
EASUREMENT		- cm3/1000s. : 8.0
		+ 0.0
ated speed rpm	: 500	<u> </u>
Pressure hPa	: 550	STARTING FUEL DELIVERY
ack travel mm	: 1.80	1
olerance mm	: +- 0.10	+ Rated speed rpm : 100
	- · · -	+ rack travel mm : 13.50
ressure hPa	: 350	+ Tolerance mm : +- 0.10
ack travel mm	: 0.80	+ Del. quantity
olerance mm	: + 0.10	+ cm3/1000 strokes : 78.0
	- · · · ·	+ Tolerance
		+ cm3/1000 strokes : +- 7.5
tart interlock		+ Check tolerance
unit inter took		- cm3/1000s. : + 10.0
ated speed rpm	: > 100	10.0
ated speed rpm		1
aced speed this		I
heck		
speed 1/min	; > 80	LOW IDLE
heck	•	+
peed 1/min	: < 240	+ Rated speed rpm : 300
		· · · ·
_		

K05

Rack travel in mon Tolerance mon	:	+-	9.20 0.10	
Del. quantity cm3/1000 strokes	:		19.0	
Tolerance cm3/1000 strokes	:	+	2.0	
Check tolerance cm3/1000S. Spreed	:	+-	4.5	
Tolerance cm3/1000 strokes	:		5.5	
Check tolerance cm3/1000s.	:		9.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.02.98 : ISO 4113

Combination No. : 0 400 866 214

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 030

Governor

Governer design. : RSV450...1100A0C2190

: -84R

Governer no.

: 0 420 233 323

Cust. part No. : 3921095

Customer-spec. information

Customer : CDC Motor : 60T830 Power KW

: 134.2

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde assembly : 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : ← 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter:

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : ← 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 : + 1.50 Tolerance mrs

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

Start of delivery blocking

*NW after s.o.d. : 11.00 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.25

Tolerance mm : + 0.05

K07

Del. quantity cm3/1000 strokes : 104.5	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 104.5 Tolerance
Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 6.5
Check tolerance : 6.5	CONTROL LEVER
	control lever
Rated speed rpm : 450	position degree : 103.0 tolerance degree : +- 4.0
Rack travel in mm: 5.80 + Tolerance mm: :+ 0.10 +	RATED SPEED
Del. quantity cm3/1000 strokes : 18.5	rack travel mm : 10.20 Rated speed rpm : 1145
Tolerance cm3/1000 strokes : +- 2.0	Tolerance 1/min : +- 5
Check tolerance : + 4.5	rack travel mm : 4.00 Rated speed rpm : 1225
Spreed Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : 6.0 + Check tolerance cm3/1000s. : 8.0 + Check tolerance cm3/1000s.	rack travel mm : G.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
cm3/1000s. : 8.0	Rated speed rpm : 1350 rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1230 Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 85.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Control lever difference Grad : 18.0
governor spring + pre-tension +	Grad : 18.0 tolerance degree : +- 4.0
click setting x : 4.25	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 450 rack travel mm : 5.30
Rated speed rpm : 1100	Tolerance mm : + 0.10
+	Rated speed rpm : 100

CRT mm min. : > 19.00

Rated speed rpm 450 rack travel ma 5.80 : + 0.10Tolerance ma

TORQUE CONTROL

1100 Rated speed rpm 11.25 rack travel mm Tolerance ma : +- 0.05

750 Rated speed rpm rack travel mm 12.10 Tolerance ma : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 113.5

Tolerance cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 20.50 : + 0.50Tolerance mm

Del. quantity

cm3/1000 strokes : 148.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s.: **←** 15.0

LOW IDLE

Rated speed rpm : 450

5.80 Rack travel in mm: Tolerance mm 0.10

Del. quantity

cm3/1000 strokes : 18.5

Testing:

cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5

Spreed

Tolerance

Tolerance cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.8.0 :

End of test specification sheet

K09

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.02.98 Test oil : ISO 4113

Combination No. : 0 402 076 817

Injection pump

Pump designation : PES6P120A720RS3367

EP type number : 0 412 026 788

Governor

Governer design. : RSV525...1000P2A640

: -1

Governer no: : 0 421 833 604

Cust. part No. : RE71286

Customer-spec. information Customer : DEERE Motor : 6081HT001 Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure ber: 17.0 Tolerance bar: + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : C-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 14.00 Difference * CS : 2.50

BASIC SETTING

Rated speed rpm : 1000

	
Rack travel in mm Tolerance mm	: 13.00 : + 0.05
Del. quantity cm3/1000 strokes	: 174.5
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 3.0
Spreed	
Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 6.5
Rated speed rpm	: 525
Rack travel in mm Tolerance mm	: 5.10 : + 0.10
Del. quantity cm3/1000 strokes	: 26.5
Tolerance cm3/1000 strokes Check tolerance	: ← 2.0
cm3/1000s. Spreed	: ← 4.5
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF IN	JECTION PUMP
GUIDE SLEEVE POSI	TION
control lever position degree Rated speed rpm	: - 3 : 800
Rack travel in mm Tolerance mm	
governor spring pre-tension click setting x	: 3.00

FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 1400 : 174.5 : + 1.0 : + 3.0 : 4.0 : 6.5
CONTROL LEVER	
control lever position degree tolerance degree	: 87.5 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 12.00 : 1070 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1115 : + 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1200
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1115 : + 15
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 525 rack travel mm : 4.60 Tolerance mm : + 0.10

Rated speed rpm	: 100	+ Check tolera + cm3/1000s.	
CRT mam min.	: > 19.00	† cm5/1000s.	: ← 4.0
Testing:		Aneroid pres	sure
		+ hPa	:
Rated speed rpm	: 525	+ Rated speed	
rack travel mm	: 5.10	🕂 Del. quantit	S y
Tolerance mm	: ← 0.10	- → cm3/1000 str	okes : 165.0
		+ Tolerance	
			okes : +- 2.0
TORQUE CONTROL		- Check tolera	
Rated speed rpm	: 1000	+ cm3/1000s.	
nated speed rpill	: 13.00	T (mb/ 10003.	4.0
rack travel mm Tolerance mm	: + 0.05	T	
Toterance asi	: +- 0.05	4	
O . A	. 700	OTA DITTUG	T AFI THENY
Rated speed rpm	700	+ STARTING FUE	T DELIVERY
rack travel mm	: 13.80	†	
Tolerance mm	: ← 0.10	+ Rated speed	rpm : 100
		+ rack travel	rpm : 100 mm : 20.50
	·	+ Tolerance mm	ı : ← 0.50
ANEROID/ALTITUDE		+ Del. quantit	:y
COMPENSATOR TEST		+ cm3/1000 str	okes : 105.0
		+ Tolerance	
			okes : +- 20.0
SETTING		Check tolera	
2.E1111AG			
	roo	† cm3/1000s.	: ← 25.0
Rated speed rpm		†	
Pressure hPa	: 1400	†	
		+	
Rated speed rpm	: 500	+	
Fressure hPa	: -	∔ LOW IDLE	
Pressure hPa rack travel mm	: 12.25	}	
Tolerance mm	: + 0.10	+ Rated speed	rpm : 525
MEASUREMENT		- Rack travel	in mm: 5.10
TICAGONE IET			: +- 0.10
Botod speed see	: 500	+ Del. quantit	
Rated speed rpm	. 200	7 Dec. quantiti	y
0	. 675	+ cm3/1000 str	rokes : 26.5
Pressure hPa	: 975	+ Tolerance	-1 1 2.0
rack travel mm	: 13.40		rokes : + 2.0
Tolerance mm	: ← 0.20	+ Check tolera	
		+ cm3/1000s.	: +- 4.5
Pressure hPa	: 830	+ Spreed	
rack travel mm	: 12.70	+ Tolerance	
Tolerance mm		→ cm3/1000 str	rokes: 6.0
		+ Check tolers	
		+ cm3/1000s.	: 8.0
			- - • -
FUEL DELIVERY CHA	ARACTERISTICS	<u> </u>	
FOUR PERTACKS OFF	#WIG LENTO LTCO	1	
		<u> </u>	
Amana & J		T	
Aneroid pressure	. 4/00	† <u> </u>	
hPa	: 1400	† End of test	specification sheet
Rated speed rpm	: 700	†	
Del. quantity		+	
cm3/1000 strokes	: 197.0	+	
Tolerance		+	
cm3/1000 strokes	: +- 2.0	+	
SHOT TOO SELECTED		1	
		•	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.02.98 Test oil : ISO 4113

Combination No. : 0 402 736 906

Injection pump

Pump designation : PES6P120A120RS7416 .

EP type number : 0 412 726 959

Governor

Governer design. : RQV400...1250PA1060

: -4K

Governer no. : 0 421 815 514

Cust. part No. : 3928146

Customer—spec. information Customer : CDC Motor : 6BTA-A Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x tength mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 6.25 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.65

Tolerance mm : + 0.05

Del. quantity	† Tolerance mm : + 0.25
cm3/1090 strokes : 159.0	+
Tolerance	+ Rated speed rpm : 1690 + guide sleeve
cm3/1000 strokes : + 1.0	† travel mm : 11.50
Check tolerance	↑ Tolerance mm : ← 0.50
cm3/1000s. : \leftarrow 4.0	
Spreed	+ GUIDE SLEEVE POSITION
Talanasa	†
Tolerance cm3/1000 strokes : 8.0	<pre>t control lever t position degree : VH</pre>
	Rated speed rpm : 1390
Check tolerance cm3/1000s. : 12.0	† Rack travel in mm : 12.60
	The court of the c
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 420	+
Rack travel in mm : 6.00	+ Rated speed rpm : 1250 + Aneroid pressure
Tolerance mm : + 0.10	+ hPa : 1200
Del. quantity	† Del. quantity
cm3/1000 strokes : 15.0 Tolerance	+ cm3/1000 strokes : 159.0 + Tolerance
cm3/1000 strokes : +- 3.0	+ cm3/1000 strokes : +- 1.0
Check tolerance	+ Check tolerance
cm3/1000s. : +- 5.0 Spreed	+ cm3/1000s. : + 4.0 + Spreed
Tolerance	+ Tolerance
cm3/1000 strokes : 4.0	+ cm3/1000 strokes : 8.0
Check tolerance cm3/1000s. : 8.0	+ Check tolerance + cm3/1000s. : 12.0
	12.0
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	+ CONTROL LEVER
	t control lever
GUIDE SLEEVE TRAVEL	position degree : 120.0
Dated aread now 4770	tolerance degree : +- 4.0
Rated speed rpm : 1329 guide sleeve	T RATED SPEED
travel mm : 7.83	+ rack travel mm : 12.60
Tolerance mm : +- 0.15	+ Rated speed rpm : 1325
Rated speed rpm : 400	† Tolerance 1/min : + 15
guide sleeve	rack travel mm : 4.00
travel mm : 1.44	+ Rated speed rpm : 1475
Tolerance mma : +- 0.20	† Tolerance 1/min : +- 5
Rated speed rpm : 939	rack travel mm : 0.50
guide sleeve travel mma : 5.18	Tolerance mm : + 0.50
Tolerance mm : + 0.25	+ Rated speed rpm : 1550
	+
Rated speed rpm : 640 guide sleeve	<u> </u>
travel mm : 3.56	LOW IDLE

control lever position degree : 73.5 tolerance degree : +- 4.0 Control lever difference Grad 46.5 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 300 CRT man min. : > 5.80 Testina: 420 Rated speed rpm : 6.00 rack travel mm : + 0.10 Tolerance mm Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 13.65 : +- 0.05 Tolerance mm : 800 Rated speed rpm 11.85 rack travel mm : + 0.10Tolerance mm Rated speed rpm : 500 rack travel mm : 11.60 : ∹- 0.20 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa 1200 : 1250 Rated speed rpm Pressure hPa 10.30 rack travel mm : + 0.20Tolerance mm **MEASUREMENT** Rated speed rpm : 1250 375 Pressure hPa : rack travel mm 12.50 : +- 0.30 Tolerance mm

Pressure hPa 260 11.30 rack travel mm : + 0.20Tolerance mm Start interlock 200 Rated speed rpm :> Rated speed rpm : < 340 Check speed 1/min : > 190 Check speed 1/min : < 360 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 hPa Rated speed rpm : 800 Del. quantity cm3/1000 strokes: 133.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.: 12.0 rack travel mm : 11.60 Tolerance mm : + 0.20 Aneroid pressure Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 107.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Set starting CRT at K-cam.

Rated speed rpm : 100 rack travel mm : 14.10 : +− 0.50 Tolerance mm

Del. quantity cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

: +- 25.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 420

Rack travel in mm: 5.00 : **←** 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 15.0 Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

5.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 611

Injection pump

Pump designation : PES6P120A320RS7372 .

EP type number : 0 412 726 940

Governor

Governer design. : RQV250...1400PA1279K Governer no. : 0 421 815 508

Cust. part No. : 3866783

Customer-spec. information Customer : CDC : 6BTA Motor Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

: 208.5 Tolerance bar : \leftarrow 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05 Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 11.00 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 13.45 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 186.5

	+ Rated speed rpm : 1860
Tolerance	+ guide sleeve
cm3/1000 strokes : + 1.0	† travel mm : 13.50
Ot and Andrews	+ Tolerance mm : + 0.50
Check tolerance cm3/1000s. : ← 4.0	Ī
Cm3/10003 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	
	Rated speed rpm : 1400
Tolerance	+ Aneroid pressure
cm3/1000 strokes : 8.0	+ hPa : 1200
Charle to Larence	
Check tolerance cm3/1000s. : 12.0	+ Tolerance
CIID 10003 12.0	cm3/1000 strokes : +- 1.0
	+ Check tolerance
	+ cm3/1000s. : + 4.0
Rated speed rpm : 300	+ Spreed
	+ Tolerance
Rack travel in mm: 7.00	+ cm3/1000 strokes : 8.0
Tolerance mm : + 0.20	+ Check tolerance
Del. quantity cm3/1000 strokes : 28.0	+ cm3/1000s. : 12.0
cm3/1000 strokes : 28.0 Tolerance	I
cm3/1000 strokes : ← 3.0	
Check tolerance	CONTROL LEVER
$cm3/1000s.$: \leftarrow 5.0	+
Spreed	+ control lever
Tolerance	+ position degree : 121.5
cm3/1000 strokes : 5.0	tolerance degree : +- 4.0
Check tolerance	DATES ORFER
cm3/1000s. : 8.0	+ RATED SPEED + rack travel mm : 12.80
	+ rack travel mm : 12.80 + Rated speed rpm : 1465
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : +- 5
WITH GOVERNOR	+
	rack travel mm : 6.80
	Rated speed rpm : 1580
GUIDE SLEEVE TRAVEL	† Tolerance 1/min : +- 15
Rated speed rpm : 1455	+ rack travel mm : 0.50
guide steeve	Toterance mm : + 0.50
travel mm : 9.16	+ Rated speed rpm : 1725
Tolerance mm : + 0.15	+
	+
Rated speed rpm : 275	†
guide steeve	1011 701 5
travel mm : 1.39 Tolerance mm : +- 0.20	+ LOW IDLE
Toterance mm : T U.20	I
Rated speed rpm : 931	- control lever
guide sleeve	position degree : 73.0
travel mm : 5.67	tolerance degree : + 4.0
Tolerance mm : + 0.25	+
	+ Control lever difference
Rated speed rpm : 480	+ Grad : 48.5
guide sleeve travel mm : 3.18	tolerance degree : +- 6.0
Tolerance mm : + 0.25	Setting point w/out bumper spring
TOTAL CHILL O.C.	- Sections points wroat bamps, opining
	τ

200 Rated speed rpm Check CRT mm min. : > 8.60 Testina: Rated speed rom 300 : 7.00 rack travel mm : + 0.20Tolerance mm Rated speed rpm : 350 TORQUE CONTROL 1400 Rated speed rpm : rack travel mm 13.45 Tolerance mm : + 0.05Rated speed rpm : 1000 13.20 rack travel mm : + 0.10Tolerance mm 700 Rated speed rpm : 13.00 rack travel mm : + 0.20Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 1400 1200 Pressure hPa Reted speed rom 1000 Pressure hPa 9.65 rack travel mm Tolerance mm : +- 0.20 **MEASUREMENT** : 1400 Rated speed rpm 620 Pressure hPa : 12.30 rack travel mm : + 0.20Tolerance mm 280 Pressure hPa rack travel mm 10.65 : + 0.20Tolerance mm Start interlock 100 Rated speed rpm : > Rated speed rpm : < 240

speed 1/min :> 80 Check speed 1/min : < 250 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 Rated speed rpm 1000 Del. quantity cm3/1000 strokes : 178.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s. rack travel mm 13.00 : + 0.20Tolerance mm Aneroid pressure Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 98.5 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +-3.0 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm : 21.00 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 170.5 Tolerance cm3/1000 strokes : +- 20.0Check tolerance : +- 25.0 cm3/1000s. LOW IDLE Rated speed rpm : 300

Rack travel in mm Tolerance mm	: +	7.00 0.20
Del. quantity cm3/1000 strokes Tolerance	:	28.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s. Spreed	: +-	5.0
Tolerance cm3/1000 strokes Check tolerance	:	5.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.02.98 Test oil : ISO 4113

Combination No. : 9 400 030 734

Injection pump

Pump designation: PES4A95D320/3RS2880 EP type number: 9 410 037 214

Governor

Governer design. : RSV500...1100A00847R

Soverner no. : 9 420 034 713

Cust. part No. : 3930153

Customer—spec. information Customer : CDC Motor : 4BT3.9 Power KW : 74.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 107.5

Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : + 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 101.0 tolerance degree : +- 4.0
Rack travel in mm: 5.55 Tolerance mm: : + 0.10 Del. quantity cm3/1000 strokes: 20.5	RATED SPEED rack travel mm : 11.50 Rated speed rpm : 1165 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 2.0 check tolerance cm3/1000s. : + 4.5 spreed	rack travel mm : 6.00 Rated speed rpm : 1230 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1375
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 81.0 tolerance degree : +- 4.0
control lever position degree : - 3 Rated speed rpm : 800	Control lever difference Grad : 20.0 tolerance degree : + 4.0
Rack travel in mm: 0.50 Tolerance mm: ; + 0.20	Setting point w/out bumper spring
governor spring + pre-tension +	Rated speed rpm : 500 rack travel mm : 5.05 Tolerance mm : +- 0.10
click setting x : 3.25	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.00
Rated speed rpm : 1100 Aneroid pressure	Testing:
hPa : 1000 + Del. quantity +	Rated speed rpm : 500 rack travel mm : 5.55
cm3/1000 strokes : 107.5 +	Tolerance mm : + 0.10

TORQUE CONTROL 1100 Rated speed rom rack travel mm 12.55 : + 0.05 Tolerance mm

Rated speed rpm 750 13.50 rack travel mm Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

750 Rated speed rpm 1000 Pressure hPa

Rated speed rpm 750 Pressure hPa 12.80 rack travel mm : + 0.10Tolerance mm

MEASUREMENT

750 Rated speed rpm

650 Pressure hPa rack travel mm 13.60 : + 0.20Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1000 hPa Rated speed rpm 750

Del. quantity

cm3/1000 strokes : 119.5

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s.4.0

Aneroid pressure

hPa 750 Rated speed rpm Del. quantity

cm3/1000 strokes :

Tolerance 1.0 cm3/1000 strokes : +-

109.0

Check tolerance

3.0 cm3/1000s.: +-

STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm : + 0.50Tolerance mm Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance : + 15.0 cm3/1000S.

LOW IDLE

Rated speed rpm : 500 Rack travel in mm: 5.55 Tolerance mm : **←** 0.10 Del. quantity 20.5 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s.5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.02.98 Test oil : ISO 4113

Combination No. : 0 401 446 150

Injection pump

Pump designation : PE6R13U/72ORS1506 EP type number : 0 411 436 002

6overnor

Governer design. : RQV250...1050R4K Governer no. : 0 421 415 903

Cust. part No. : 865 020 P02 v. 08/94

Customer-spec. information

Customer : PENTA : TAMD163 P-A

Power KW : 553.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm): 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 120 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 8.70 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050	guide sleeve travel mm : 6.42 Tolerance mm : +- 0.25
Rack travel in mm : 14.40 Tolerance mm : + 0.05	Rated speed rpm : 310 guide sleeve travel mm : 2.00
Del. quantity cm3/1000 strokes : 450.0	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : + 2.0	Rated speed rpm : 360 guide sleeve travel mm : 2.41 Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : + 5.0	Rated speed rpm : 570
Spreed	guide sleeve travel mm : 3.54 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 13.0	Rated speed rpm : 1360 guide sleeve
Check tolerance cm3/1000s. : 17.0	travel mm : 13.50 Tolerance mm : + 0.50
Rated speed rpm : 250	GUIDE SLEEVE POSITION
Rack travel in mm: 6.65 Tolerance mm: + 0.10 Del. quantity	control lever position degree : - 1 Rated speed rpm : 1205
cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : + 4.0	Rack travel in mm : 11.00 Tolerance mm : +- 2.50
Check tolerance cm3/1000s. : + 7.0 + 7.0 + 7.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes : 11.0 Check tolerance	Rated speed rpm : 1050 Aneroid pressure
cm3/1000s. : 15.0	hPa : 2200 Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000 strokes : 450.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : +- 5.0 Spreed
Rated speed rpm : 1106 guide sleeve	Tolerance cm3/1000 strokes : 13.0 Check_tolerance
travel mm : 9.18 + Tolerance mm : + 0.25 +	cm3/1000s. : 17.0
Rated speed rpm : 250 guide steeve travel mm : 1.26	CONTROL LEVER
Tolerance mm : + 0.25 Rated speed rpm : 895	control lever position degree : 65.0 tolerance degree : +- 4.0
The second of th	₩

control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 13.40 : 1105 : + 5 : 4.00 : 1200 : + 15 : 0.50 : + G.50
LOW IDLE	
control lever position degree tolerance degree	: 74.0 : +- 4.0
control lever position degree tolerance degree	: 20.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 7.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 6.65 : + 0.10
Rated speed rpm	: 380
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 14.40 : ← 0.05
Rated speed rpm rack travel mma Tolerance mma	: 850 : 13.20 : ← 0.15
Rated speed rpm rack travel mm Tolerance mm	: 975 : 14.30 : + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm : 1050 Pressure hPa : 2200 rack travel mm : 14.40 Tolerance mm : + 0.05		
Rated speed rpm : 500 Pressure hPa : - rack travel mm : 8.70 Tolerance mm : + 0.15		
MEASUREMENT		
Rated speed rpm : 1050		
Pressure hPa : 1580 rack travel mm : 5.10 Tolerance mm : + 0.10		
Pressure hPa : 400 rack travel mm : 0.25 Tolerance mm : + 0.05		
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa : 2200 Rated speed rpm : 850		

Aneroid pressure	. 2200
hPa	: 2200
Rated speed rpm	: 850
Del. quantity	: 412.0
cm3/1000 strokes	: 412.0
Tolerance	: +- 4.0
cm3/1000 strokes Check tolerance	4.0
cm3/1000S.	: +- 7.0
Spreed	. ' '.0
Tolerance	
cm3/1000 strokes	: 15.0
Check tolerance	, , , , ,
cm3/1000S.	: 19.0
Anancid procesure	
Aneroid pressure	
Rated speed rpm	500
Del. quantity	. 500
cm3/1000 strokes	: 238.0
Tolerance	. 250.0
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000s.	: +- 5.0

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 11.70 Tolerance mm : + - 0.30

Del. quantity

cm3/1000 strokes : 385.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : + 25.0

LOW IDLE

250 Rated speed rpm :

Rack travel in mm: 6.65 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : +-4.0

Check tolerance

cm3/1000s. 7.0

Spreed

Tolerance

11.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 15.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.02.98 Test oil : ISO 4113

Combination No. : 0 401 846 994

Injection pump

Pump designation : PE6P110A320RS3374 EP type number : 0 411 816 800

Governor

Governer design. : RQV300...1100PA1182

Governer no. : 0 421 814 110

Cust. part No. : 11032709 PO2 v.03.97

Customer-spec. information

Customer : VCE
Motor : TD63KBE
Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05
Check

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.15
Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

		Tolerance mm	: - 0.20
BASIC SETTING	Ī	Rated speed rpm guide sleeve	: 822
Rated speed rpm : 6	25	travel mm	: 5.40
		Tolerance man	: ← 0.25
Rack travel in mm: 1		Rated speed rpm	: 510
Tolerance mm : +-	U.U5	guide sleeve travel mm	: 3.11
Del. quantity cm3/1000 strokes : 1	53.0	Tolerance mm Rated speed rpm	: + 0.25 : 1390
Tolerance cm3/1000 strokes : +-	1.0	guide sleeve travel mm	: 11.50
Check tolerance		Tolerance mm	: + 0.50
cm3/1000s. : +-	3.0	GUIDE SLEEVE POSI	TION
Spreed	<u> </u>	SOINE SEELAE LOST	1 7014
Tolerance	+	control lever	
cm3/1000 strokes :	4.0	position degree	
Check tolerance	 †	Rated speed rpm	: 1240
cm3/1000s.	6.0 I	Rack travel in mm	• 11.30
		Tolerance mm	
	-		
Rated speed rpm : 3	500	FULL LOAD DELIVER	Y AT FULL LOAD STOP
	5.90	Rated speed rpm	: 625
Tolerance mm : +-	0.10	Aneroid pressure	4500
Del. quantity	7,0	hPa	: 1500
cm3/1000 strokes : Tolerance	26.0	Del. quantity cm3/1000 strokes	· 153 በ
cm3/1000 strokes : +-	2.0	Tolerance	. 155.0
Check tolerance	+	cm3/1000 strokes	: +- 1.0
cm3/1000s. : +-	5.0	Check tolerance	
Spreed	+	cm3/1000s.	: +- 3.0
Tolerance	4.0	Spreed Tolerance	
cm3/1000 strokes : Check tolerance	4.0 I	cm3/1000 strokes	: 4.0
cm3/1000s. :	6.0	Check tolerance	. ,,,,
	+	cm3/1000s.	: 6.0
(B) SETTING OF INJECTION WITH GOVERNOR	I PUMP		
MILLI GOACUIAOV	Ŧ	CONTROL LEVER	
GUIDE SLEEVE TRAVEL	<u> </u>	control lever	
	1	position degree	
guide sleeve	72	tolerance degree	
travel mm :	8.69	control lever	447.6
Tolerance mm : +-	0.15	position degree tolerance degree	
Rated speed rpm : 3	500	totor and acgree	
guide sleeve	+	RATED SPEED	·
travel mm :	1.48 +	rack travel mm	: 13.00

L01

Rated speed rpm Tolerance 1/min	: 1160 :
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1275 : +- 15
rack travel mma Tolerance mma Rated speed rpma	. 0.50
LOW IDLE	
control lever position degree tolerance degree	: 85.0 : + 4.0
control lever position degree tolerance degree	: 18.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT mm main.	: > 8.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.90 : +- 0.10
Rated speed rpm	: 370
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 625 : 14.35 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1025 : 14.00 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 820 : 14.30 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 625 : 14.60 : + 0.10

ANEROID/ALTIT	UDE
COMPENSATOR T	EST

SETTING

Rated speed rpm Pressure hPa	: 625 : 1500	
rack travel mm Tolerance mm	: 14.3 : + 0.0	_
Tolerance mm	: +- 0	. U

Rated speed rpm	:	625
Pressure hPa	:	
rack travel mm	:	11.15
Tolerance mm	: +	- 0.10

MEASUREMENT

Rated speed rpm	:	625
Pressure hPa	:	610
rack travel mm	:	2.50
Tolerance mm	: +-	0.20
Pressure hPa	:	90
rack travel mm	:	0.25
Tolerance mm	: +-	0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: 1500
Rated speed rpm	: 1025
Del. quantity	
cm3/1000 strokes	: 140.0
Tolerance	. 20
cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	. +- 5.0
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	
cm3/1000s.	: 10.0
rack travel mm	: 14.30
Tolerance mm	: + 0.10
- · · · · · · · · · · · · · · · · · · ·	
Anamaid magazina	
Aneroid pressure	

Aneroid pressure
hPa : Rated speed rpm : 625
Del. quantity
cm3/1000 strokes : 89.0

Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.20
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 103.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance

LOW IDLE

cm3/1000s.

Rated speed rpm : 300 5.90 Rack travel in mm: : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : + 2.0Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance 4.0 cm3/1000 strokes : Check tolerance 6.0 cm3/1000s.

: + 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.02.98 Edition Test oil : ISO 4113

Combination No. : 0 401 876 345

Injection pump

Pump designation : PE6P120B320RS3301 EP type number : 0 411 826 819

Governor

Governer design. : RSV250...1100P0A656

Governer no. : 0 421 833 574

Cust. part No. : 3826519 PO2 v. 12/96

Customer-spec. information Customer : PENTA : TAMD 102 D Motor : 315.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 8.30 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

: +- 0.75 tolerance 'NW

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. :	1 +	Rack travel in mm: 0.50 Tolerance mm: +- 0.20
BASIC SETTING	Ţ	governor spring pre-tension
Rated speed rpm :	1100	click setting x : 2.25
Rack travel in mm : Tolerance mm : +-	13.20 - 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes :	280.0	Rated speed rpm : 1100 Aneroid pressure hPa : 1500
Tolerance cm3/1000 strokes : +-	1.0	Del. quantity cm3/1000 strokes : 280.0 Tolerance
Check tolerance cm3/1000S. : +-	4.0	<pre>cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0</pre>
Spreed		Spreed Tolerance
Tolerance cm3/1000 strokes :	7.0	cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0
Check tolerance cm3/1000s. :	11.0	
	+	CONTROL LEVER control lever
Rated speed rpm :	250	position degree : 48.0 tolerance degree : +- 4.0
Del. quantity cm3/1000 strokes :	- 0.10	control lever position degree : 98.0 tolerance degree : + 4.0
Tolerance cm3/1000 strokes : +- Check tolerance	2.5	RATED SPEED rack travel mm : 12.20
cm3/1000s. : +- Spreed Tolerance	‡	Rated speed rpm : 1145 Tolerance 1/min : +- 5
cm3/1000 strokes : Check tolerance cm3/1000s. :	6.0	rack travel mm : 4.00 Rated speed rpm : 1230 Tolerance 1/min : +- 15
(B) SETTING OF INJECTI	ON PUMP	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
GUIDE SLEEVE POSITION		rack travel mm : 4.00 Rated speed rpm : 1240 Tolerance 1/min : +- 15
control lever position degree : - Rated speed rpm :	3 800	LOW IDLE

control lever position degree tolerance degree	: 75.0 : +- 4.0	- ra - To
control lever position degree tolerance degree	: 25.0 : + 4.0	- Fu
Setting point w/o	-	- Ar
Rated speed rpm rack travel mm Tolerance mm		- hF - Ra - D€ - cn
Testing:		- сп
Rated speed rpm rack travel mma Tolerance mma	: 250 : 6.20 : + 0.10	- Ch - Ch - Sp - To
rack travel mma Rated speed rpm Tolerance 1/min	: 2.00 - : 395 - : + 30 -	- Ch - cm
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 13.20 : + 0.05	- Ar - hF - Ra - De
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.20 : + 0.10	- To
ANEROID/ALTITUDE COMPENSATOR TEST	-	
SETTING		Ra - ra
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.20 : + 0.10	- To
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : : 8.30 : + 0.20	L LC Ra
MEASUREMENT		T C
Rated speed rpm	: 500	- cr
Pressure hPa rack travel mm Tolerance mm	: 1120 : 4.20 : + 0.15	- cn - Ch - cn - Sp
1.04		1

Pressure hPa rack travel mm Tolerance mm	: 160 : 0.25 : + 0.05			
FUEL DELIVERY CHA	RACTERISTICS			
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 700			
cm3/1000 strokes Talerance cm3/1000 strokes	: 303.0 : + 3.0			
Check tolerance cm3/1000s.	: + 6.0			
Spreed Tolerance cm3/1000 strokes Check tolerance	: 8.0			
cm3/1000s.	: 12.0			
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 700 : 148.0 : + 1.0 : + 4.0			
STARTING FUEL DELIVERY				
Rated speed rpm rack travel mm Tolerance mm	: 100 : 15.00 : +- 0.50			
LOW IDLE				
Rated speed rpm	: 250			
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.10			
Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 2.5 : + 5.0			

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 3.0

: 6.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 761

Injection pump

Pump designation : PE6P120B320RS3206 EP type number : 0 411 826 820

6overnor

Governer design. : RSV250...900P4A657

6overner no. : 0 421 833 575

Cust. part No. : 3826529 PO1 v. 10/96

Customer-spec. information

Customer : VOLVO-PENTA Motor : TAMD122 A Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 977

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 80 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05
Check

uneck

tolerance mm : + 0.10

Rack travel in mm: 8.70 Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

	† governor spring
BASIC SETTING	+ pre-tension
Rated speed rpm : 700	$\frac{1}{1}$ click setting x : 4.00
Rack travel in mm : 11.40	FULL LOAD DELIVERY AT FULL LOAD STOP
Folerance mm : + 0.05	Rated speed rpm : 700
TOTAL CALLES	+ Aneroid pressure
Del. quantity	hPa : 1500
cm3/1000 strokes : 264.0	+ Del. quantity
	+ cm3/1000 strokes : 264.0
olerance	† Tolerance
n3/1000 strokes : +- 1.0	- cm3/1000 strokes : + 1.0
	+ Check tolerance
heck tolerance	+ cm3/1000s. : +- 4.0
$m3/1000$ s. : \leftarrow 4.0	Spreed
	+ Tolerance
preed	+ cm3/1000 strokes : 5.0 + Check tolerance
olerance	+ cm3/1000s. : 9.0
m3/1000 strokes : 5.0	T 6/110/10/00 . 7.U
	+
heck tolerance	
3/1 000 \$. : 9.0	+ CONTROL LEVER
	control lever
	position degree : 55.0
ted speed rpm : 250	tolerance degree : + 4.0
al. America)	† control loven
ick travel in mm: 5.10	+ control lever
olerance mm : +- 0.10	<pre>position degree : 105.0 tolerance degree : + 4.0</pre>
l. quantity 3/1 000 strokes : 20.0	T cotenance degree : 74.0
blerance	I RATED SPEED
n3/1000 strokes : $$ 3.0	- rack travel mm : 10.40
heck tolerance	+ Rated speed rpm : 960
m3/1000s. : +- 6.0	Tolerance 1/min : + 5
preed	+
olerance	🕂 rack travel mm : 4.00
m3/1000 strokes : 5.0	+ Rated speed rpm : 1000
heck tolerance	† Tolerance 1/min : + 15
m3/1000s. : 7.0	†
	+ rack travel mm : 0.85
TO CETTING OF THE CETTING CHAP	+ Tolerance mm : +- 0.55
) SETTING OF INJECTION PUMP TH GOVERNOR	Rated speed rpm : 1130
III GOVERNOR	Track travel mm : 4.00
	Rated speed rpm : 1010
	Tolerance 1/min : + 15
JIDE SLEEVE POSITION	+
	†
ontrol lever	İ
osition degree : - 3	LOW IDLE
ated speed rpm : 800	1
tra spoor (but t and	+
ack travel in mm: 0.50	- control lever
olerance mm : + 0.20	position degree : 73.0

L09

tolerance degree	: +- 4.0
control lever position degree tolerance degree	: 23.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.60 : + 0.10
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.10 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 410 : ← 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.40 : + 0.05
ANEROID/ALTITUDE	
COMPENSATOR TEST	
COMPENSATOR TEST	: 700 : 1500 : 11.40 : ← 0.05
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm	: 11.40 : + 0.05
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 11.40 : + 0.05
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 11.40 : ← 0.05 : 700 : - : 8.70
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 11.40 : ← 0.05 : 700 : − : 8.70 : ← 0.20
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 11.40 : ← 0.05 : 700 : − : 8.70 : ← 0.20

Aneroid pressure	4
hPa Rated speed rpm Del. quantity	: - : 700
cm3/1000 strokes Tolerance	: 178.0
cm3/1000 strokes Check tolerance	: ← 1.0
cm3/1000s.	: + 4.0
STARTING FUEL DEL	TVERY
STARTING FUEL DEL	TACUI
Rated speed rpm rack travel mm	: 100
Tolerance mm	: 8.70 : + 0.20
	: 8.70
Tolerance mm	: 8.70 : + 0.20
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm	: 8.70 : + 0.20
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 8.70 : + 0.20 : 250 : 5.10 : + 0.10
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 8.70 : + 0.20 : 250 : 5.10 : + 0.10
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 8.70 : + 0.20 : 250 : 5.10 : + 0.10 : 20.0
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.70 : + 0.20 : 250 : 5.10 : + 0.10 : 20.0 : + 3.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 06.02.98 Edition Edition : U6.02.98
Test oil : ISO 4113

Combination No. : 0 401 876 777

Injection pump

Pump designation : PE6P120B320RS3261 EP type number : 0 411 826 821

6overnor

Governer design. : RSV250...1100P0A655

6overner no. : 0 421 833 573

Cust. part No. : 3826513 PO1 v.10.96

Customer-spec. information

Customer : PENTA : TAMD 102 A Motor : 294.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

: 208.5 Tolerance bar : \leftarrow 1.5

Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 8.50 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

DAGIC OFFITAIC	governor spring
BASIC SETTING	<pre>pre-tension click setting x : 2.25</pre>
Rarted speed rpm : 700	
Rack travel in mm: 12.15	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance am : + 0.05	Rated speed rpm : 700 Aneroid pressure
Del. quantity cm3/1000 strokes : 260.0	+ hPa : 1500 + Del. quantity + cm3/1000 strokes : 260.0
Tolerance cm3/1000 strokes : + 1.0	Tolerance + cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : + 4.0	theck tolerance cm3/1000s. : + 4.0 the spreed
Spreed	Tolerance tom3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : 5.0	theck tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. 9.0	CONTROL LEVER
	control lever + position degree : 47.0
Rated speed rpm : 250	tolerance degree : +- 4.0
Rack travel in mm: 6.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 23.0	control lever position degree : 97.0 tolerance degree : + 4.0
Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0	+ RATED SPEED + rack travel mm : 11.10 + Rated speed rpm : 1145 + Tolerance 1/min : +- 5
Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	rack travel mm : 4.00 Rated speed rpm : 1210 Tolerance 1/min : + 15
cm3/1000s. : 7.0 (B) SETTING OF INJECTION PUMP	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1350
WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	Toterance min : 13
control lever position degree : - 3 Rated speed rpm : 800	LOW IDLE
Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 73.0

tolerance degree	: - 4.0
control lever position degree tolerance degree	: 23.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm Tolerance mm	: 250 : 6.00 : + 0.10
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 6.50 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 400 : ← 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.15 : ← 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.50 : +- 0.15
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 900 : 3.20 : ← 0.15
Pressure hPa rack travel mm Tolerance mm	: 140 : 0.25 : + 0.05

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		700
Del. quantity			
cm3/1000 strokes	:		150.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0
STARTING FUEL DELI	rvi	FRY	
THE POLL PEL	. • 1		
Rated speed rpm	:		100
rack travel mm	:		17.00
Tolerance mm	:	+-	1.00
LOW IDLE			
Rated speed rpm	:		250
Rack travel in mm			
Rack travet in imi			4 50
	:	+-	6.50
Tolerance mm	:	+-	6.50 0.10
Tolerance mm Del. quantity	:	+-	0.10
Tolerance mm Del. quantity cm3/1000 strokes	:	+-	
Tolerance mm Del. quantity cm3/1000 strokes Tolerance	:	+-	0.10
Tolerance mm Del. quantity cm3/1000 strokes	:	+-	0.10
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	:	+ + +	0.10
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	+-+	0.10 23.0 3.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	+++	0.10 23.0 3.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	:	+- +-	0.10 23.0 3.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	•	+-+	0.10 23.0 3.0 6.0 5.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	•	+- +-	0.10 23.0 3.0 6.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	•	+- +-	0.10 23.0 3.0 6.0 5.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	•	+-++	0.10 23.0 3.0 6.0 5.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 808

Injection pump

Pump designation : PE6P120A320R83355 EP type number : 0 411 826 814

Governor

Governer design. : RSV300...1100P1A604

Governer no. : 0 421 833 485

Cust. part No. : 3825516 PO3 v. 11/95

Customer—spec. information Customer : PENTA Motor : TD1030ME Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 85 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05
Check

tolerance mm

• 0.55

: +- 0.10

Rack travel in mm: 9.55
Tolerance mm: +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.50	†
Tolerance mm : $\leftarrow 0.05$	FULL LOAD DELIVERY AT FULL LOAD STOP
	-
Del. quantity	Rated speed rpm : 1100
cm3/1000 strokes : 156.0	Aneroid pressure
Tolonoo.	hPa : 1500
Tolerance 1.0	+ Del. quantity + cm3/1000 strokes : 156.0
CAD/ 1000 Strokes . F 1.5	Tolerance
Check tolerance	cm3/1000 strokes : + 1.0
$cm3/1000s.$: \leftarrow 4.0	Check tolerance
	+ cm3/1000s. : +- 4.0
Spreed	- Spreed
Tolonomon	+ Tolerance + cm3/1000 strokes : 7.0
Tolerance - 7.0	+ check tolerance
Cho/ loud Strokes . 7.0	- cm3/1000s. : 11.0
Check tolerance	- 11.57
cm3/1000s. : 11.0	+
•	+ CONTROL LEVER
Rated speed rpm : 300	† + control lever
Rated speed rpm : 300	position degree : 62.0
Rack travel in mm: 4.70	tolerance degree : +- 4.0
Toterance mm : + 0.10	+
Del. quantity	tontrol lever
cm3/1000 strokes : 23.0	position degree : 112.0
Tolerance	tolerance degree : +- 4.0
cm3/1000 strokes : +- 2.5	† + RATED SPEED
Check tolerance : +- 5.0	+ rack travel mm : 11.50
Spreed	Rated speed rpm : 1135
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : 3.0	+
Check tolerance	+ rack travel mm : 4.00
cm3/1000s. : 6.0	Rated speed rpm : 1190
	Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP	rack travel mm : 0.85
WITH GOVERNOR	Tolerance mm : +- 0.55
	Rated speed rpm : 1300
	
CUIDE OF STATE PROTECTION	rack travel mm : 4.00
GUIDE SLEEVE POSITION	Rated speed rpm : 1195 Tolerance 1/min : + 15
	1 Oterance (7) (1)
control lever	+
position degree : - 3	+
Rated speed rpm : 800	
0.50	LOW IDLE
Rack travel in mm : 0.50	1
Tolerance mm : + 0.50	† - control lever
governor spring	position degree : 76.0
pre-tension	tolerance degree : + 4.0
click setting x : 4.75	+
	control lever
	position degree : 26.0

tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 300 rack travel mm : 4.20 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 300 rack travel mm : 4.70 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 12.50 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.50 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.50
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.55
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 555 rack travel mm : 2.30 Tolerance mm : + 0.15

Pressure hPa : 140
rack travel mm : 0.25
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1500 700 Rated speed rpm Del. quantity cm3/1000 strokes : 178.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance 11.0 cm3/1000s.

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 127.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0

LOW IDLE

Rated speed rpm : 300 4.70 Rack travel in mm : Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 23.0 Tolerance 2.5 cm3/1000 strokes : +-Check tolerance 5.0 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance 6.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 810

Injection pump

Pump designation : PE6P120A320R83359 EP type number : 0 411 826 815

Governor

Governer design. : RSV325...1200P1A615

Governer no. : 0 421 833 503

Cust. part No. : 3825515 PO2 v. 10/95

Customer-spec. information Customer : PENTA Motor : TD 730ME Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 220
Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.35
Tolerance mm : + 0.05
Check

CHECK

tolerance mm : +- 0.10

Rack travel in mm : 9.40 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance $: \leftarrow 0.50$

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

†	
Rack travel in mm: 11.00 Tolerance mm: + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 123.0	Rated speed rpm : 1200 Aneroid pressure
Tolerance	hPa : 1500 Del. quantity cm3/1000 strokes : 123.0
Check tolerance cm3/1000s. : + 4.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	cm3/1000s. : + 4.0 Spreed
Tolerance cm3/1000 strokes : 7.0	Tolerance cm3/1000 strokes : 7.0 Check_tolerance
Check tolerance tom3/1000s. : 11.0	cm3/1000s. : 11.0
+	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 70.0
Rack travel in mm: 4.60 + Tolerance mm: + 0.10 + Del. quantity	tolerance degree : +- 4.0 control lever
cm3/1000 strokes : 25.0 + Tolerance +	position degree : 120.0 tolerance degree : + 4.0
cm3/1000 strokes : + 2.5 + Check tolerance cm3/1000s. : + 5.0 +	RATED SPEED rack travel mm : 10.00
Spreed + Tolerance + cm3/1000 strokes : 3.0 +	Rated speed rpm : 1235 Tolerance 1/min : + 5
Check tolerance cm3/1000s. : 6.0	rack travel mm : 4.00 Rated speed rpm : 1280
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 15 rack travel mm : 0.85
WITH GOVERNOR	Tolerance mm : + 0.55 Rated speed rpm : 1400
GUIDE SLEEVE POSITION	
control lever	LOW IDLE
position degree : -3 Rated speed rpm : 800	control lever position degree : 80.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	tolerance degree : +- 4.0
governor spring + pre-tension +	control lever position degree : 30.0 tolerance degree : +- 4.0
click setting x : 5.75	Setting point w/out bumper spring

Rated speed rpm rack travel mm	: 325 : 4.10	‡	Rated speed rpm Del. quantity	
rack travel mm Tolerance mm	: ← 0.10	‡	cm3/1000 strokes Tolerance	
Testing:		†	cm3/1000 strokes	: ← 3.0
Rated speed rpm rack travel mmm	: 4.60	Ī	Check tolerance cm3/1000s. Spreed	: ← 6.0
Tolerance mm		‡	Tolerance cm3/1000 strokes	: 7.0
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 390 : + 30	<u> </u>	Check tolerance cm3/1000s.	: 11.0
TORQUE CONTROL		<u> </u>	Aneroid pressure	: -
Rated speed rpm rack travel mm		· ‡	Rated speed rpm Del. quantity	500
Tolerance mm		1	cm3/1000 strokes Tolerance	: 95.0
Rated speed rpm rack travel mm	: 700 : 11.00	1	cm3/1000 strokes Check tolerance	: + 1.0
Tolerance mm	: + 0.10	<u> </u>	cm3/1000s.	: +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		+		
SETTING		<u> </u>	LOW IDLE	
Rated speed rpm Fressure hPa	: 500 : 1500	<u> </u>	Rated speed rpm	: 325
rack travel mm	: 11.00	+	Rack travel in mm	
Tolerance num		Ŧ	Tolerance mm Del. quantity	
Rated speed rpm Pressure hPa	: 500	‡	cm3/1000 strokes Tolerance	: 25.0
rack travel mm	9.40	+	cm3/1000 strokes	: ← 2.5
Tolerance mm	: +- 0.20	‡	Check tolerance cm3/1000S.	: ← 5.0
MEASUREMENT		‡	Spreed Tolerance	
Rated speed rpm	: 500	1	cm3/1000 strckes Check tolerance	: 3.0
Pressure hPa rack travel mm Tolerance mm	: 490 : 1.10 : +- 0.15	} †	cm3/1000s.	: 6.0
Pressure hPa rack travel min Tolerance mm	: 290 : 0.25 : ← 0.05	‡	End of test speci	fication sheet
FUEL DELIVERY CHA	RACTERISTICS: 1500	 		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.02.98 Test oil : ISO 4113

Combination No. : 0 402 046 861

Injection pump

Pump designation : PE6P110A320RS3329 . EP type number : 0 412 016 743

Governor

Governer design. : RQ325/1300PA1150 Governer no. : 0 421 801 716

Cust. part No. : 1284420/4

Customer-spes. information Customer : DAF : NS156M Motor Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

1.5 Inlet prese bar : Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 1-- 5- 3- 6- 2-Firing order

: 0-60-120-180-240 Phasing

: --300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 11.85 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 144.0	Tolerance mm : +- 0.10
Toterance	_ + Rated speed rpm : 590 + guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 6.00 Tolerance mm : +- 0.10
Check tolerance	
cm3/1000s. : + 4.0	Rated speed rpm : 1570 guide sleeve
Spreed	travel mm : 11.50 + Tolerance mm : + 0.50
Tolerance	T toterative min . + 0.30
cm3/1000 strokes : 4.0	GUIDE SLEEVE POSITION
Check tolerance	
cm3/1909s. : 7.5	I
· · · · · · · · · · · · · · · · · · ·	+ control lever
	position degree : 109
	+ Rated speed rpm : 650
Rated speed rpm : 325	Traced opeca (pill . 050
nated speed (bit . JC)	T Rack travel in man: 20.00
Rack travel in mm : 4.50	+ Tolerance Am : + 0.80
The second secon	I infermine with " 1 0.00
	I
Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 26.0	T FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	1000
ca3/1900 strckes : - 2.5	+ Rated speed rpm : 1909
Check tolerance	+ Aneroid pressure
cm3/1000s. : + 5.0	+ hPa : 1000
Spreed	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 144.0
cm3/1000 strokes : 12.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : 15.0	+ Check tolerance
	+ cm3/1000s. : +- 4.0
	+ Spreed
(B) SETTING OF INJECTION PUMP	† Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : 4.0
	+ Check tolerance
	- + cm3/1000s. : 7.5
GUIDE SLEEVE TRAVEL	}
	+
Rated speed rpm : 1351	+
guide sleeve	CONTROL LEVER
travel mm : 6.37	+
Tolerance mm : +- 0.10	control lever position degree : 93.0
Rated speed rpm : 325	tolerance degree : + 4.0
guide steeve	1
travel mm : 1.99	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.85
Office into	Rated speed rpm : 1345
Rated speed rpm : 1300	Tolerance 1/min : +- 5
guide sleeve	Check
	speed 1/min : + 10
Tolerance mm : + 0.10	Track travel mm : 4.00
0-4-4	
Rated speed rpm : 427	Rated speed rpm : 1450
guide sleeve	Tolerance 1/min : + 15
travel mm : 3.54	+

Check speed 1/min : +-20 : 0.50 : ← 0.50 rack travel mm Tolerance mm Rated speed rpm : 1600 LOW IDLE control lever position degree : 72.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rom : 225 : > 5.90 CRT mm min. Testing: 325 Rated speed rpm : rack travel mm 4,50 : ← 0.10 Tolerance mm 2.00 rack travel mm : Rated speed rpm : 415 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm 11.85 Tolerance mm : + 0.05Rated speed rpm : 700 rack travel mm 11.85 Tolerance mm : + 0.05Rated speed rpm : 1300 : 11.85 rack travel mm Tolerance mm : **←** 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING 600 Rated speed rom : Pressure hPa 1000

: 7.35 rack travel mm : + 0.20 Tolerance mm MEASUREMENT Rated speed rpm : 600 Pressure hPa 370 rack travel mm 10.75 Tolerance mm : + 0.05Pressure hPa 200 rack travel mm 8.40 : **←** 0.10 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure h?a 1000 Rated speed rpm 700 : Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 5.0 : 11.85 rack travel mm : +- 0.05 Tolerance mm Aneroid pressure Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 94.0 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. : + 3.5 LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.50
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 26.0
Tolerance
cm3/1000 strokes : + 2.5

rack travel mm

Rated speed rpm :

Tolerance mm

Pressure hPa

11.85

: +- 0.05

600

Check tolerance cm3/1000s. : +- 5.0

Spreed

12.0

Tolerance
cm3/1000 strokes :
Check tolerance
cm3/1000s. : : 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 881

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1370

: 0 421 801 828 Governer no.

Cust. part No. : 1305236

Customer-spec. information : DAF Customer Motor : NS177M Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

1.5 Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

: 140 min. L/h min. l/h : 140
Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

har 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter: 6.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure ban : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : + 0.05Tolerance mm

Check

tolerance mm : + - 0.10

Rack travel in mm: 20.50 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-69-129-189-240 Phasing

: -300

Tolerance : +- 0.50

Check

: **←** 0.75 tolerance *NW

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance 'NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 12.25

+	guide sleeve
Del. quantity	travel mm : 3.48
cm3/1000 strokes : 149.5	Tolerance mm : +- 0.10
+	
Tolerance	Rated speed rpm : 590
cm3/1000 strokes : + 1.0	guide sleeve
	travel mm : 6.00
Check tolerance	Tolerance mm : +- 0.10
cm3/1000s. : + 4.0	
1	Rated speed rpm : 1460
Spreed	guide sleeve
1	travel. mm : 11.50
Tolerance	Tolerance mm : +- 0.50
cm3/1000 strokes : 4.0	
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : 7.5	
1	
***************************************	control lever
1	position degree : 109
Rated speed rpm : 325	, postation adgrees (10)
Nation appear i più	control lever
Rack travel in mm: 4.40	position degree : 109
Tolerance mm : + 0.10	Rated speed rpm : 600
Del. quantity	
cm3/1000 strokes : 26.0	Rack travel in mm : 20.00
Tolerance +	Tolerance mm : + 0.80
cm3/1000 strokes : +- 3.0 +	
Check tolerance	
cm3/1000s. : + 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	
Tolerance	Rated speed rpm : 1000
cm3/1000 strokes : 3.0	Aneroid pressure
Check tolerance	hPa : 1500
cm3/1000s. : 12.0	Del. quantity
12.0	cm3/1000 strokes : 149.5
1	Tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000 strokes : +- 1.0
WITH GOVERNOR	Check tolerance
WITH GOVERNOR	cm3/1000s. : + 4.0
	Spreed
GUIDE SLEEVE TRAVEL	Tolerance
SATA APPLE HAAFE	cm3/1000 strokes : 4.0
Rated speed rpm : 1292	Check tolerance
guide sleeve	cm3/1000s. : 7.5
travel mm : 6.37	,
Tolerance mm : + 0.15	
Rated speed rpm : 325	CONTROL LEVER
guide sleeve	
travel mm : 1.99	control lever
Tolerance mm : + 0.20	position degree : 97.0
+	tolerance degree : + 4.0
5	
Rated speed rom : 1000 +	•
The second secon	RATED SPEED
guide sleeve	RATED SPEED : 11.25
guide sleeve travel mm : 6.00	rack travel mm : 11.25
guide sleeve	rack travel mm : 11.25 Rated speed rpm : 1290
guide sleeve travel mm : 6.00 Tolerance mm : + 0.10	rack travel mm : 11.25 Rated speed rpm : 1290 Tolerance 1/min : +- 5
guide sleeve travel mm : 6.00	rack travel mm : 11.25 Rated speed rpm : 1290

rack travel mm 4.00 1370 Rated speed rpm Tolerance 1/min Check speed 1/min 20 0.50 rack travel mm : + - 0.50Tolerance nm Rated speed rpm : 1500 LOW IDLE control lever 75.0 position dearee : tolerance degree : +-Setting point w/out bumper spring 225 Rated speed rpm CRT mm min. : > 6.00 Testing: 325 Rated speed rpm 4,40 rack travel mm : + 0.10Tolerance mm 2.00 rack travel mm Rated speed rpm Tolerance 1/min : +-TORQUE CONTROL 1000 Rated speed rpm rack travel mm 12.25 : **←** 0.05 Tolerance mm 1250 Rated speed rpm 12.25 rack travel mm : + 0.10Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : + 0.05

Rated speed rpm : 600

Pressure hPa : − rack travel mm : 7.00 Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 430 rack travel mm : 10.90 Tolerance mm : + 0.05

Pressure hPa : 220 rack travel mm : 8.10 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.40
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 26.0
Tolerance

cm3/1000 strokes : +- 3.0
Check tolerance

6.0

cm3/1000S. : +-Spreed

Tolerance

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 09.02.98 : ISO 4113

Combination No. : 0 402 076 821

Injection pump

Pump designation : PES6P120A720RS3340 .

EP type number

: 0 412 026 773

Governor

Governer design. : RSV650...1050P8A566

: -6

Governer no.

: 0 421 833 615

Cust. part No. :

Customer-spec. information

Customer

: NH

Motor Power KW

: EP 040 B : 213.0

TEST BENCH REQUIREMENTS

: 4.2 Inlet line

Test oil inlet

temo. °C

40

Tolerance °C

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

har

208.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.60°

: + 0.05Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance 'NW : + - 0.75

Start of delivery blocking

Check

tolerance *NW : + - 0.30

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm: 13.35

L27

Tolerance mm : + 0.05	Rated speed rpm : 1025 Aneroid pressure
Del. quantity cm3/1000 strokes : 204.0	hPa : 1600 Del. quantity
Tolerance	cm3/1000 strokes : 204.0 Tolerance
cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 6.0
Check tolerance cm3/1000s. : + 6.0	- cm3/1000S. : +- 6.0 - Spreed - Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	- cm3/1000s. : 9.0 -
Check tolerance cm3/1000s. : 9.0	- CONTROL LEVER
	- control lever
	position degree : 90.0
Rated speed rpm : 650	- tolerance degree : +- 4.0 -
Rack travel in mm : 4.70 + Tolerance mm : + 0.10 + Del. quantity	- ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 23.0	- Rated speed rpm : 1067
Tolerance + 3.0 + 3.0	rack travel mm : 12.30
cm3/1000 strokes : + 3.0 + Check tolerance	- - Rated speed rpm : 1097
cm3/1000s. : +- 6.0	Tolerance 1/min : + 5
Spreed	rack travel mm : 4.00
Tolerance	- - rack travel mm : 0.85
cm3/1000 strokes : 8.0 + Check tolerance	- rack travel mm : 0.85 - Tolerance mm : +- 0.55
cm3/1000s. : 12.0	- Rated speed rpm : 1300
1	<u>.</u> -
(B) SETTING OF INJECTION PUMP	- Rated speed rpm : 1068
WITH GOVERNOR	Rated speed rpm : 1068 rack travel mm : 12.30
1	- Rated speed rpm : 1098
	- Tolerance 1/min : + 5
GUIDE SLEEVE POSITION	- rack travel mm : 4.00
4	- rack travel mm : 0.85
control lever	- rack travel mm : 0.85 - Tolerance mm : +- 0.55
position degree : -3	-
Rated speed rpm : 800	- - Rated speed rpm : 1069
Rack travel in mm : 0.50	- rack travel mm : 12.30
Tolerance mm : + 0.20	-
+	- Rated speed rpm : 1099
governor spring	- Tolerance 1/min : +- 5 - rack travel mm : 4.00
pre-tension tilck setting x : 2.00	- rack travel mm : 4.00 -
term secting A	- rack travel mm : 0.85
	- rack travel mm : 0.85 - Tolerance mm : +- 0.55
FULL LOAD DELIVERY AT FULL LOAD STOP	- -

Rated speed rpm rack travel mmn Rated speed rpm Tolerance 1/min rack travel mmn rack travel mmn Tolerance mmn	: 12.30 : 1100 : ← 5 : 4.00 : 0.85	Rated speed rpm : 650 rack travel mm : 14.05 Tolerance mm : + 0.15 ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm rack travel mm Rated speed rpm	: 12.30 : 1161	Rated speed rpm : 500 Pressure hPa : 1600 rack travel mm : 14.00
Tolerance 1/min rack travel mm		+ Tolerance mm : + 0.15 + Rated speed rpm : 500
rack travel mm Tolerance mm	: 0.85 : + 0.55	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 7.90 Tolerance mm : + 0.15
Rated speed rpm rack travel mm		MEASUREMENT Rated speed rpm : 500
Rated speed rpm Tolerance 1/min rack travel mm	: ← 5 : 4.00	Pressure hPa : 980 rack travel mm : 12.25 Tolerance mm : + 0.10
rack travel mm Tolerance mm		Start interlock
LOW IDLE		Rated speed rpm : > 100
control lever position degree	: 73.0	theck speed 1/min :> 80
Setting point w/o	ut bumper spring	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm Testing:	: 4.20	Aneroid pressure hPa : 1600 Rated speed rpm : 750 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 650 : 4.70 : + 0.10	- cm3/1000 strokes : 230.0 - Tolerance - cm3/1000 strokes : + 3.0 - Check tolerance - cm3/1000s. : + 6.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 13.35	rack travel mm : 14.05 Tolerance mm : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 14.00	Aneroid pressure hPa : - Rated speed rpm : 500

Del. quantity
cm3/1000 strokes : 86.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 140.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance

: +- 19.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 650 Rack travel in mm: 4.70 Tolerance m_0 : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.02.98 : ISO 4113

Combination No. : 0 402 646 617

Injection pump

Pump designation : PE6P130A320RS7282 EP type number : 0 412 636 829

Governor

Governer design. : RQV300...900PA1059

Governer no. : 0 421 314 049

Cust. part No. : 865851-P08 V.09.97

Customer-spec. information Customer : PENTA

: TAD 1230 P Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 077

1.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 8.30

Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

; +- 0.50 Tolerance

Check

: **←** 0.75 tolerance *NW

Start of delivery mark

; +- 0.50 Tolerance

Check

tolerance °NW : ← 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

		1
Rack travel in me	n: 11.55	Rated speed rpm : 315
Tolerance mm	: +- 0.05	+ guide sleeve
1000, 21100 1111		travel mm : 1.98
Del. quantity		Tolerance mm : + 0.25
cm3/1000 strokes	: 349.0	1 Total direction
CMD/ TODO SEFORES	. 547.0	Rated speed rpm : 365
Tolerance		guide sleeve
cm3/1000 strokes	15	travel mm : 2.54
CIRCI TOOU SCI UNES	. 1 1.3	Tolerance mm : + 0.25
Check tolerance		Total and the man
cm3/1000s.	: +- 5.0	Rated speed rpm : 420
CR27 10003.	, , , ,,,	guide sleeve
Caread		travel mm : 3.17
Spreed		Tolerance mn : + 0.25
Tolerance		T Total rate min . + 0.25
cm3/1000 strokes	. 70	Rated speed rpm : 1210
UND/ IUUU STrokes		
Charle And America		+ guide sleeve
Check tolerance	. 11.0	+ travel mm : 11.50
cm3/1000s.	: 11.0	Tolerance mm : +- 0.50
		†
		CHITAE OLEFUE DOCUTION
Data di anna 1	. 700	+ GUIDE SLEEVE POSITION
Rated speed rpm	: SUU	†
Burt Survey to se		†
Rack travel in m		control lever
Tolerance mm	: ← 0.10	+ position degree : - 1
Del quantity	27. 0	+ Rated speed rpm : 980
cm3/1000 strokes	: 23.0	†
Tolerance		+ Rack travel in mm : 16.50
cm3/1000 strokes	: ← 3.0	† Tolerance mm : + 1.30
Check tolerance		+
cm3/1000s.	: 6.0	
Spreed		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		+
cm3/1000 strokes	: 7.0	+ Rated speed rpm : 700
Check tolerance		+ Ameroid pressure
cm3/1000s.	: 11.0	+ hPa : 2000
		+ Del. quantity
		+ cm3/1000 strokes : 349.0
(B) SETTING OF I	NJECTION PUMP	+ Tolerance
WITH GOVERNOR		- cm3/1000 strokes : + 1.5
		+ Check tolerance
		+ cm3/1000s. : +- 5.0
GUIDE SLEEVE TRA	VEL	Spreed
		+ Tolerance
Rated speed rpm	: 928	+ cm3/1000 strokes : 7.0
guide sleeve		+ Check tolerance
travel mm	: 7.72	+ cm3/1000s. : 11.0
Tolerance mm	: +- 0.25	+
	***	+
Rated speed rpm	: 300	+
guide sleeve		+ CONTROL LEVER
travel mm	: 1.81	+
Tolerance mm	: +- 0.25	+ control lever
		position degree : 61.0
Rated speed rpm	: 650	tolerance degree : + 4.0
guide sleeve		1
travel mm	: 5.16	+ control lever
Tolerance mm	: + 0.25	position degree : 117.0
LOCE COLLECTION	, · · · · · · · · · · · · · · · · · · ·	i hostriot delice . Itt.n

tolerance degree	. ـ	L rack travel mm · 830
_	4.0	+ rack travel mm : 8.30 + Tolerance mm : +- 0.10
RATED SPEED rack travel mm	: 10.50	+ MEASUREMENT
Rated speed rpm	: 915	1
Tolerance 1/min	: +- 5	Rated speed rpm : 500
rack travel mm		Pressure hPa : 1390
Rated speed rpm	: 1000	rack travel mm : 2.90 Tolerance mm : + 0.20
Tolerance 1/min	; 15	+
rack travel mm	: 0.50	Pressure hPa : 640 rack travel mm : 0.25 Tolerance mm : + 0.05
Tolerance mm Rated speed rpm	: + 0.50 : 1100	+ rack travel mm : U.25 + Tolerance mm : + 0.05
ndeca opeca i più		+ *************************************
		. ‡
LOW IDLE		İ
		Anercid pressure
control lever	. 7/ 0	+ hPa : - Rated speed rpm : 700
position degree tolerance degree	: 74.0 : +- 4.0	+ Del. quantity
to ter direct degree	, , , , , ,	cm3/1000 strokes : 230.0
control lever	46.6	Tolerance
position degree tolerance degree	: 18.U · - 4.0	+ cm3/1000 strokes : + 1.5 + Check tolerance
toter difte degree	. , 7.0	cm3/1000s. : + 5.0
Testing:		†
Rated speed rpm	: 300	Ţ
rack travel mm Tolerance mm	: 4.00	+
Tolerance mm	: +- 0.10	<u> </u>
rack travel mm	: > 5.60	LOW IDLE
Rated speed rpm	: 200	Poted speed speed 200
Rated speed rpm	: 365	Rated speed rpm : 300
e de la seconda		Rack travel in mm: 4.00
TORQUE CONTROL		Tolerance mm : + 0.10 Del. quantity
Rated speed rpm	: 700	+ cm3/1000 strokes : 23.0
rack travel mm	: 11.55	Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : +- 3.0 Check tolerance
ANEROID/ALTITUDE		+ Spreed
COMPENSATOR TEST		Tolerance cm3/1000 strokes : 7.0
		Check tolerance
SETTING		cm3/1000s. : 11.0
Rated speed rpm	: 500	Ī
Pressure hPa	: 2000	+
rack travel mm	: 11.55 : +- 0.05	1
Tolerance mm	; 0.05	End of test specification sheet
Rated speed rpm	: 500	+
Pressure hPa	: -	+

M05

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 25.11.97 : ISO 4113 Test oil

Combination No. : 0 402 646 623

Injection pump

Fump designation : PE6P120A320R87283

: -10

EP type number : 0 412 626 918

Governor

Governer design. : RQV250...900PA1069

: -1

: 0 421 814 070 Governer no.

Cust. part No. : 866141 P06 v. 11/97

Customer—spec. information

Customer : PENTA

: TAD 1030V Motor

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C : **←** 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

: 300 min. l/h min. l/h : 300 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5

: **←** 1.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

· : 26.0 : + 1.0 Test pressure bar : Tolerance bar

3.45 Prestroke mm : +- 0.05 Tolerance mm Check

tolerance mm : **→** 0.10

Rack travel in mm : 10.00 Tolerance mm : ∹~ 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 : +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery mark

: +- 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

MO7

Barrel no.	: 1	guide sleeve travel mm : 1.12 Tolerance mm : + 0.25
BASIC SETTING		Rated speed rpm : 657
Rated speed rpm	: 700	guide sleeve travel mm : 5.07 Tolerance mm : +- 0.25
~		
Rack travel in mo Tolerance mam		Rated speed rpm : 315 guide sleeve travel mm : 1.98
Del. quantity cm3/1000 strokes	: 290.0	Tolerance mm : +- 0.25
Tolerance	 ‡	Rated speed rpm : 365 guide sleeve
cm3/1000 strokes	: + 1.0	travel mm : 2.63 Tolerance mm : + 0.25
Check tolerance cm3/1000s.	: + 4.0	Rated speed rpm : 420 guide sleeve
Spreed	1	travel mm : 3.17 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: 6.0	Rated speed rpm : 1290 guide sleeve
Check tolerance cm3/1000s.	: 10.0	travel mm : 11.50 Tolerance mm : + 0.50
	+	GUIDE SLEEVE POSITION
Rated speed rpm	: 250	
Rack travel in mar Tolerance man Del. quantity	: ← 0.10	control lever position degree : - 1 Rated speed rpm : 1150
cm3/1000 strokes Tolerance	+	Rack travel in mm : 9.00
cm3/1000 strokes Check tolerance	: + 3.0 +	Tolerance mm : +- 3.00
20001\5m2	·+ 50 I	
cm3/1000s. Spreed Tolerance	: ← 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed Tolerance cm3/1000 strokes Check tolerance	: 7.0	Rated speed rpm : 700 Aneroid pressure
Spreed Tolerance cm3/1000 strokes Check tolerance	‡	Rated speed rpm : 700 Aneroid pressure hPa : 1500 Del. quantity
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: 7.0 : 11.0	Rated speed rpm : 700 Aneroid pressure A
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 7.0 : 11.0	Rated speed rpm : 700 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: 7.0 : 11.0	Rated speed rpm : 700 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm	: 7.0 : 11.0 NJECTION PUMP	Rated speed rpm : 700 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAN	: 7.0 : 11.0 NJECTION PUMP	Rated speed rpm : 700 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0

M08

CONTROL LEVER

control lever

position degree : 64.0 tolerance degree : + 4.0

control lever

position degree : 119.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.45 Rated speed rpm : 935 Tolerance 1/min : + 5

rack travel mm : 4.00 Rated speed rpm : 1075 Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1150

LOW IDLE

control lever

position degree : 74.0 tolerance degree : + 4.0

control lever

position degree : 24.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : > 9.00

Testing:

Rated speed rpm : 250 rack travel mm : 7.70 Tolerance mm : +- 0.10

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 13.45 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 10.00
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 200 rack travel mm : 10.30 Tolerance mm : + 0.10

Pressure hPa : 1090 rack travel mm : 13.15 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - 700

Del. quantity

cm3/1000 strokes : 176.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 7.70
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 18.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance
cm3/1000s. : +- 5.0
Spreed
Tolerance
cm3/1000 strokes : 7.0
Check tolerance

Check tolerance cm3/1000s. : 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 658

Injection pump

Pump designation: PE6P130A720RS7371
EP type number: 0 412 636 837

Governor

Governer design. : RQV250...900PA1215

Governer no. : 0 421 814 139

Cust. part No. : 3825482-P04 V.11/95

Customer—spec. information
Customer : PENTA
Motor : TAMD 163 A
Power KW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 60 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.70
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 7.60 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900	guide sleeve travel mm : 1.98 Tolerance mm : + 0.25
Rack travel in mm: 13.20 Tolerance mm: + 0.05	Rated speed rpm : 365 guide sleeve travel mm : 2.47
Del. quantity cm3/1000 strokes : 377.0	Tolerance mm : + 0.25 Rated speed rpm : 650
Tolerance cm3/1000 strokes : + 1.5	guide sleeve - travel mm : 4.40 - Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +- 5.0	Rated speed rpm : 1160 guide sleeve
Spreed	- travel mm : 11.50 - Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : 9.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 12.0	control lever
Rated speed rpm : 250	position degree : - 1 Rated speed rpm : 1030
Rack travel in mm : 5.00 + Tolerance mm : + 0.10 + Del. quantity	Rack travel in mm : 11.00 Tolerance mm : + 2.00
cm3/1000 strokes : 25.0 + Tolerance	- FULL LOAD DELIVERY AT FULL LOAD STOP
<pre>cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 6.0</pre>	- Rated speed rpm : 900 - Aneroid pressure - hPa : 1500
Spineed Tolerance	- Del. quantity - cm3/1000 strokes : 377.0
cm3/1000 strokes : 5.0 check tolerance cm3/1000s. : 8.0	- Tolerance - cm3/1000 strokes : +- 1.5 - Check tolerance
(B) SETTING OF INJECTION PUMP	- cm3/1000s. : + 5.0 - Spreed - Tolerance
WITH GOVERNOR	- cm3/1000 strokes : 9.0 - Check tolerance - cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL	-
Rated speed rpm : 959 guide sleeve travel mm : 8.22	- CONTROL LEVER
Tolerance mm : + 0.25	control lever position degree : 63.0
Rated speed rpm : 250	- tolerance degree : +- 4.0 - - control lever
Tolerance mm : + 0.25 Rated speed rpm : 315	- position degree : 118.0 - tolerance degree : +- 4.0
rated speed that a 212	

M12

RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 930
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1010 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1100
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : + 4.0
control lever position degree tolerance degree	: 15.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 150
CRT mm min.	: > 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.00 : + 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.20 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.20 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	

Pressure hPa rack travel man Tolerance man	: 1500 : 13.20 : ← 0.05
Rated speed rpm Pressure hPa	: 500
rack travel mm Tolerance mm	: 7.60 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerence mm	: 1000 : 5.10 : + 0.2G
Pressure hPa rack travel mm Tolerance mm	: 240 : 0.25 : ← 0.05
Arieroid pressure	
hPa Rated speed rpm	: 1500 : 700
Del. quantity	
cm3/1000 strokes Tolerance	: 409.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: +- 6.0
Ameroid pressure	
hPa Rated speed rpm	: – : 700
Del. quantity cm3/1000 strokes	: 194.0
Tolerance	
cm3/1000 strokes Check tolerance	: ← 1.5
cm3/1000s.	: +- 5.0
LOW IDLE	
Rated speed rpm	: 250
Rack travel in mm Tolerance mm	: 5.00 : + 0.10
Del. quantity cm3/1000 strokes	: 25.0

M13

Rated speed rpm : 500

Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 962

Injection pump

Pump designation : PE6P130A720RS7137 EP type number : 0 412 636 806

Governor

Governer design. : RQ750PA865-2 Governer no. : 0 421 801 619

Cust. part No. : 864855-P04 v.10.94

Customer—spec. information Customer : PENTA Motor : TWD1620G

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerarice °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm :

→ 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 12.25 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.25
Tolerance mm: + 0.05

Nal munatifa			
Del. quantity cm3/1000 strokes	: 368.0	CONTROL LEVER	
	: + 1.5	control lever position degree tolerance degree	
Check tolerance cm3/1000s.	: + 5.0	RATED SPEED rack travel mm	: 11.20
Spreed		Rated speed rpm Tolerance 1/min	: 751
Tolerance cm3/1000 strokes	: 8.0	rack travel mm Rated speed rpm	: 4.00 : 781
Check tolerance cm3/1000s.	: 12.0	Tolerance 1/min	: ← 7
		rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 850
Rack travel in man Tolerance man	: 3.90 : + 0.20	ASSEMBLY GOVERNOR	SEITING
Del. quantity	+	Rated speed rpm	: 748
cm3/1000 strokes	: 30.0	rack travel mm	: 11.20
Tolerance	+		770
cm3/1000 strokes	: + 3.0	Rated speed rpm Tolerance 1/min	
Check tolerance cm3/1000s.	: + 5.0	rack travel mm	:
Spreed	7.0		: 0.50
Tolerance cm3/1000 strokes	: 5.0	rack travel mm Tolerance mm	: +- 0.50
Check tolerance	· 3.0	Rated speed rpm	_
- 11	: 8.0	Nacce speed i pii	. 555
	I	Rated speed rpm	: 749
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	rack travel mm	
	+	Rated speed rpm	
	+	Tolerance 1/min	_
CHILL LOAD DELTHEDY	AT FULL LOAD STOD	rack travel mm	: 4.00
FULL LUMP DELIVERY	AT FULL LOAD STOP	rack travel mm	: 0.50
Rated speed rpm	: 700	Tolerance mm	: + 0.50
Aneroid pressure	+	Rated speed rpm	
· · · · = •	: - +		
Del. quantity	+		750
cm3/1000 strokes	: 368.0	Rated speed rpm	
Tolerance cm3/1000 strokes	15	rack travel mm	: 11.20
Check tolerance	· - '.5	Rated speed rpm	: 781
cm3/1000s.	: +- 5.0	Tolerance 1/min	
Spreed	<u> </u>	rack travel mm	
Tolerance	+		
cm3/1000 strokes	: 8.0	rack travel mm	
Check tolerance	+	Tolerance mm	: + 0.50
cm3/1000s.	: 12.0	Rated speed rpm	: 850
	‡	Rated speed rpm	: 751

rack travel mm	: 11.20
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 850
Rated speed rpm	: 752
rack travel mm	: 11.20
Rated speed rpm	: 783
Tolerance 1/min	: 4- 5
rack travel mm	: 4.00
rack travel mma	: 0.50
Tolerance mma	: + 0.50
Rated speed rpma	: 850
Rated speed rpm	: 753
rack travel mm	: 11.20

Rated speed rpm	:	784
Tolerance 1/min	: +-	5
rack travel mm	:	4.00

rack travel mm Tolerance mm Rated speed rom	: : +-	0.50 0.50 850
Rated speed rpm	:	

TORQUE CONTROL		
Rated speed rpm	:	700
rack travel mm	:	12.25
Tolerance mm	: +	- 0.05

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 676 821

Injection pump

Pump designation : PE6P12OA32OLS7854 EP type number : 0 412 626 872

Governor

Governer design. : RSV550...1050P0A826

: -9

: 0 421 333 459 Governer no.

Cust. part No. : 0250746302

Customer-spec. information Customer : MB-NFZ : OM 441 LA Motor : 239.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

: 1 417 413 025 Overflow valve

Inlet press. bar : 1.5 : + 0.1 Tolerance bar

Overflow quantity

: 115 min. L/h min. L/n : 175
Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : + 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter: 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

5.25 Prestroke mm : +- 0.05 Tolerance mm Check tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 6-3-5-2-4-Firing order

: 1

: 0-60-120-180-240 Phasing

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 13.60 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 224.0

Tolerance cm3/1000 strokes : +- 1.0

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	+ Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : +- 4.0 Spreed
Spreed	Tolerance : 5.0
Tolerance	+ Check tolerance + cm3/1000S. : 9.0
3/1000 strokes : 5.0	†
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
	control lever
Det describera	position degree : 88.0
Rated speed rpm : 550	+ tolerance degree : +- 4.0
Rack travel in mm : 3.90	+
Tolerance man : + 0.10 Del. quantity	+ ASSEMBLY GOVERNOR SETTING +
cm3/1000 strokes : 19.0	Rated speed rpm : 1075
Tolerance	- rack travel mm : 12.60
cm3/1000 strokes : +- 3.0 Check tolerance	Rated speed rpm : 1115
cm3/1000s. : + 6.0	+ Tolerance 1/min : + 4
Spreed	rack travel mm : 4.00
Tolerance	+
cm3/1000 strokes : 6.0 Check tolerance	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
cm3/1000s. : 10.0	Rated speed rpm : 1300
	†
(D) OFTEND OF THEFOTYON NIMB	+ Dated aread 107/
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Rated speed rpm : 1076 + rack travel mm : 12.60
WITH GOVERNOON	+
	+ Rated speed rpm : 1116
OUT OF THE PROTECTION	Tolerance 1/min : + 4
GUIDE SLEEVE POSITION	rack travel mm : 4.00
	rack travel mm : 0.85
control lever	+ Tolerance mm : + 0.55
position degree : - 3	Rated speed rpm : 1300
Rated speed rpm : 800	I
Rack travel in mm: 0.50	Rated speed rpm : 1077
Tolerance mm : + 0.20	Rated speed rpm : 1077 rack travel mm : 12.60
covernon apping	+ Rated speed rpm : 1117
governor spring pre—tension	+ Tolerance 1/min : +- 4
click setting x : 1.50	rack travel mm : 4.00
_	†
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : + 0.55
LOFF FOWN DEFINELL WI LOFF FOWN SIGE	Tolerance mm : + 0.55 + Rated speed rpm : 1300
Rated speed rpm : 1030	+
Aneroid pressure	+
hPa : - Del. quantity	Rated speed rpm : 1078 rack travel mm : 12.60
cm3/1000 strokes : 224.0	T TACK CLAVEC HAIL . 12.00
Tolerance	Rated speed rpm : 1118
cm3/1000 strokes : + 1.0	+ Tolerance 1/min : + 4

M19

rack travel mm	: 4.00	+ Rated speed rpm : 970 + rack travel mm : 13.90	1
rack travel mm Tolerance mm	: 0.85 : +- 0.55	Tolerance mm : + 0.10	
Rated speed rpm	1700	Rated speed rpm : 750	
karen sheen that	. 1300	rack travel mm : 14.20	ì
		Tolerance mm : + 0.10	
Rated speed rpm	: 1079	Total di lia in a constanti di lia const	•
rack travel mm		\perp	
	,200	1	
Rated speed rpm	: 1119		
Tolerance 1/min		FUEL DELIVERY CHARACTERISTIC	:S
rack travel mm	: 4.00	+	
	0.05	+	
rack travel mm		+ Aneroid pressure	
Tolerance mm		hPa : -	
Rated speed rpm	: 1300	Rated speed rpm : 750	,
		rack travel mm : 14.20	
mack traval	: 12.60	,	,
rack travel mm	: 12.0U	+ Del. quantity + cm3/1000 strokes : 244.0	1
rack travel mm	: 4.00	Tolerance	,
TOUR LEGIVEL HEI	. 4.00	- cm3/1000 strokes : +- 1.0	١
rack travel mm	: 0.85	Check tolerance	,
Tolerance mm		+ cm3/1000s. : + 4.0	1
rocerance min	. 0.33	Spreed	•
		- Tolerance	
LOW IDLE		+ cm3/1000 strokes : 8.0)
		+ Check tolerance	
		+ cm3/1000s. : 12.0)
control lever		+	
position degree	: 67.0	+	
tolerance degree	. - 4.0		
		+ STARTING FUEL DELIVERY	
Setting point w/c	out bumper spring	† Datad analy and 100	
Dahad award non	. /50	Rated speed rpm : 100	
Rated speed rpm	: 450	Del. quantity cm3/1000 strokes : 250.0	า
CRT mm min.	· > 8 50	Tolerance	,
CRI HAN HIJII.	. > 0.00	= cm3/1000 strokes : + 15.0	1
Testing:		Check tolerance	•
,		+ cm3/1000s. : + 19.0)
Rated speed rpm	: 550	+	
rack travel mm		+	
Tolerance mm		+	
		+	
rack travel mm		+ LOW IDLE	
Rated speed rpm		†	
Tolerance 1/min	: ← 20	Rated speed rpm : 550	
OFT THE ALIVE TAC	OMINO VI	Rack travel in mm: 3.90	1
SET IDLE AUXILIAR	(I OLKTIAR	+ Tolerance mm : + 0.10	
rack travel mm	. 200	+ Del. quantity	,
THE CITE OF LINE	. 2.00	- cm3/1000 strokes : 19.0	1
		Tolerance	•
TORQUE CONTROL		+ cm3/1000 strokes : + 3.0)
Rated speed rpm	: 1030	+ Check tolerance	-
rack travel mm	: 13.60	- cm3/1000s. : +- 6.0)
Tolerance mm	: +- 0.05	Spreed	
,		1	

Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 736 858

Injection pump

Pump designation : PES6P110A120RS7214 EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1200PA964

: -28K

Governer no. : 0 421 815 428

Cust. part No. : 3282464

Customer-spec. information Customer : CUMMINS : 6CTA-A Motor Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 120 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50

Tolerance : \leftarrow 0.50 Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

		1
Rack travel in mm Tolerance mm	: 12.35 : + 0.05	Ra + gu + tr
Del. quantity cm3/1000 strokes	: 148.5	+ To
Tolerance cm3/1000 strokes	: + 1.0	+ gu + tr
Check tolerance cm3/1000s.	: + 4.0	+ To
Spreed		+ GU
Tolerance cm3/1000 strokes	: 5.0	co po Ra
Check tolerance cm3/1000s.	: 9.0	+ Ra
		+ _
Rated speed rpm	: 350	FU
Rack travel in mm Tolerance mm	: 5.50 : + 0.10	Ra + An
Del. quantity cm3/1000 strokes	: 30.0	+ hF + De
Tolerance cm3/1000 strokes	: + 3.0	+ cm + Tc
Check tolerance	; +- 3.0	T cm
-1007 1190001	: +- 5.0	+ ch
Spreed Tolerance		+ cm
cm3/1000 strokes	: 8.0	+ To
Check tolerance	. 12.0	+ cm
cm3/1000s.	: 12.0	+ Ch
		+
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	İ _
WITH GOVERNOR		+ cc
GUIDE SLEEVE TRAVE	1	+ cc
GOIDE SPEEAE INVAE	L	+ pc
	: 1200	+ to
guide sleeve	: 9.10	†
travel mm Tolerance mm	: + 0.10	+ cc
TOCCI CHIOC MAIN		+ to
Rated speed rpm	: 350	† 54
guide sleeve travel mm	: 1.80	+ RA + ra
Tolerance mm	: + 0.20	Ra
		+ To
Rated speed rpm guide sleeve	: 450	† ra
travel mm	: 3.30	Ra
Tolerance mm	: + 0.20	+ To

Rated speed rpm guide sleeve	: 700
travel mm Tolerance mm	: 6.10 : + 0.20
Rated speed rpm guide sleeve	: 1400
travel mm Tolerance mm	: 10.90 : +- 0.20
GUIDE SLEEVE POST	TION
control lever position degree Rated speed rpm	: - 1 : 1330
Rack travel in mm Tolerance mm	: 16.50 : ← 2.70
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1200
hFa Del. quantity	: 1200
cm3/1000 strokes Tolerance	: 148.5
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 64.0 : + 4.0
control lever position degree tolerance degree	: 119.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 11.30 : 1245 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1385 : + 15

rack travel mm Tolerance mm Rated speed rpm	: ← 0.50
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : ← 4.0
control lever position degree tolerance degree	: 15.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 275
CRT mm min.	: > 7.20
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.50 : + 0.10
Rated speed rpm	: 423
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 650 : 11.10 : ← 0.20
Rated speed rpm rack travel mm Tolerance mm	: 550 : 11.00 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 1200 : 12.35 : ← 0.05
Rated speed rpm	: 1200

Pressure hPa rack travel mm Tolerance mm	: 7.90 : + 0.20
MEASUREMENT	
Rated speed rpm	: 1200
Pressure hPa rack travel mm Tolerance mm	: 575 : 11.40 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 225 : 8.95 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 290
Check speed 1/min Check	: > 80
speed 1/min	: < 300
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	• 1200
hFa Rated speed rpm	: 1200 : 650
hFa Rated speed rpm Del. quantity cm3/1000 strokes	: 650
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 650 : 154.0
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 650 : 154.0
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 650 : 154.0 : + 3.0
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 650 : 154.0 : + 3.0 : + 6.0
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 650 : 154.0 : + 3.0 : + 6.0 : 8.0
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm	: 650 : 154.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 11.00 : + 0.20
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm	: 650 : 154.0 : + 3.0 : + 6.0 : 8.0 : 12.0
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 650 : 154.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 11.00 : + 0.20
hFa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity	: 650 : 154.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 11.00 : + 0.20

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100
rack travel rmm : 11.20
Tolerance rmm : + 0.50
Del. quantity
cm3/1000 strokes : 155.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance
cm3/1900s. : + 25.0

LOW IDLE

Rated speed rpm 350 Rack travel in mm: 5.50 Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.02.98 : ISO 4113

Combination No. : 0 402 746 609A

Injection pump

Pump designation : PES6P130A720RS7411 .

EP type number : 0 412 736 808

Governor

Governer design. : RQ275/950PA1274

Governer no. : 0 421 801 807

Cust. part No. : 221 574

Customer-spec. information

Customer

: RAEA

Motor

: UTLL u. TLL206E2

Power KW

: 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 160 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.50Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 1-5- 3- 6- 2-Firing order

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.50

Check

: **←** 0.75 tolerance "NW

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.60 Tolerance mm : + 0.05

	‡ guide sleeve
Del. quantity	travel mm : 4.25
cm3/1000 strokes : 246.0	Tolerance mm : + 0.10
Toloropoo	+ Rated speed rpm : 450
Tolerance cm3/1000 strokes : +- 1.0	+ Rated speed rpm : 450 + guide sleeve
CMS/TUDU Strokes : 1.0	+ travel mm : 6.00
Check tolerance	Tolerance mm : + 0.10
cm3/1000s. : +- 4.0	I roter ance min
CMD/ 100003: 4.0	Rated speed rpm : 1290
Spreed	- guide sleeve
opi cca	+ travel mm : 11.50
Tolerance	+ Tolerance mm : + 0.50
cm3/1000 strokes : 5.0	1
Check tolerance	→ GUIDE SLEEVE POSITION
cm3/1000s. : 9.0	
	Rated speed rpm : 1147
	+
	Rack travel in mm: 11.60
Rated speed rpm : 275	+ Tolerance mm : +- 1.30
	+
Rack travel in mm: 4.20	+
Tolerance mm : +- 0.10	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	+
cm3/1000 strokes : 24.0	+ Rated speed rpm : 600
Tolerance	+ Aneroid pressure
cm3/1000 strokes : - 3.0	+ hPa : 1500
Check tolerance	+ Del. quantity
cm3/1000s. : + 6.0	+ cm3/1000 strokes : 246.0
Spreed	+ Tolerance
Tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 8.0	+ Check tolerance
Check tolerance	+ cm3/1000s. : + 4.0
cm3/1000s. : 12.0	+ Spreed
	+ Tolerance + cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance
WITH GOVERNOR	- cm3/1000s. : 9.0
MILL GOACIGACK	I (1857 15005)
	I
GUIDE SLEEVE TRAVEL	
Rated speed rpm : 1103	+
guide sleeve	→ control lever
travel mm : 6.55	position degree : 33.0
Tolerance mm : ← 0.15	tolerance degree : +- 4.0
	+
Rated speed rpm : 275	+ control lever
guide sleeve	+ position degree : 94.0
travel mm : 2.06	tolerance degree : +- 4.0
Tolerance mm : + 0.20	†
	+ RATED SPEED
Rated speed rpm : 1050	+ rack travel mm : 11.60
guide steeve	Rated speed rpm : 1095
travel mm : 6.00	† Tolerance 1/min : +- 5
Tolerance mm : + 0.10	† mark +mayol
Dated around many : 755	rack travel mm : 4.00
Rated speed rpm : 355	Rated speed rpm : 1180
	+ Tolerance 1/min : + 15

rack travel mm : 0.50 : ← 0.50 Tolerance mm Rated speed rpm : 1200 LOW IDLE control lever position degree : 73.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : \leftarrow 4.0 Setting point w/out bumper spring Rated speed rpm : 175 CRT mem main. : > 7.22 Testing: Rated speed rom : 275 4.20 rack travel mm Tolerance mm : + - 0.102.00 rack travel mm : Rated speed rpm : 346 Tolerance 1/min : +-20 TORQUE CONTROL : 600 : 12.60 Rated speed rpm rack travel mm Tolerance mm : +- 0.05 Rated speed rpm : 1050 rack travel mm : 12.60 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 : Pressure hPa : 1500 : 12.60 rack travel mm : + 0.05 Tolerance mm

Rated speed rpm : 500 Pressure hPa rack travel mm : 8.20

: +- 0.20 Tolerance mm

MEASUREMENT

Rated speed rpm 500

Pressure hPa 260 rack travel mm : 9.20 : + 0.15Tolerance man

440 Pressure hPa 11.00 rack travel mm Tolerance mm : +- 0.05

Start interlock

100 Rated speed rpm : < Rated speed rpm : > 195

Check

speed 1/min : < 80

Check

speed 1/min 215 : >

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 hPa Rated speed rpm : 1050 Del. quantity

cm3/1000 strokes : 235.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 147.0

Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s.4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50

Del. quantity

110.0 cm3/1000 strokes :

Tolerwise cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 24.0

LOW IDLE

Rated speed rpm : 275 Rack travel in mm: 4.20 : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 24.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.02.98 : ISO 4113

Combination No. : 0 402 746 637

Injection pump

Pump designation : PES6P120A320RS7449

EP type number : 0 412 726 974

Governor

Governer design. : RQ275/1050PA1372 Governer no. : 0 421 801 830

Cust. part No. : CCEP 5169- 66/253

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MI7RO62045 B41 Motor : MI/RU6a Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

tcmp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity min. L/h : 320
Tolerance L/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : ← 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

x length am : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : \leftarrow 0.75

Firing order : 1-5- 3- 6- 2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance Check

: +- 0.50

tolerance $^{\circ}NW$: + 0.75

Start of delivery mark

*NW after s.o.d. : -1.45

Tolerance : \leftarrow 0.50

Check

tolerance *NW

: +- 0.75

Barrel no.

: 1

CRT ZERO POSITION

Rack travel in mm: 12.50 Tolerance mm : +- 0.05

		† guide sleeve
ASIC SETTING		
Rated speed rpm	: 600	+ Rated speed rpm : 388
area speed (pa	. 600	guide sleeve
el. quantity		+ travel mm : 4.42
3/1000 strokes	: 193.0	→ Tolerance mm : + 0.10
olerance		Rated speed rpm : 480
3/1000 strokes	: + 1.0	+ guide sleeve
		+ travel mm : 6.00
eck tolerance		Tolerance mm : +- 0.10
3/1 000 \$.	: +- 4.0	1770
		Rated speed rpm : 1330
reed		guide sleeve
		travel mm : 11.50 Tolerance mm : +- 0.50
erance		+ Tolerance mm : +- 0.50
3/1000 strokes	: 5.0	İ
eck tolerance		GUIDE SLEEVE POSITION
sck tolerance 3/1 000 S.	: 9.0	I gothe specke costituta
, (UUU).	, 7.0	\mathbf{I}
		T control lever
		position degree : 109
ed speed rpm	: 275	Rated speed rpm : 600
a speed i piii		The code opeca i più i coo
travel in mo	a: -6.80	Rack travel in mm: 20.00
rance mm	": ← 0.10	+ Tolerance mm : +- 0.80
quantity		1.5501 41100 11111
1000 strokes	: 31.0	
rance	, 5110	FULL LOAD DELIVERY AT FULL LOAD
1000 strokes	: +- 2.0	
ck tolerance		Rated speed rpm : 600
/1000s.	: ← 5.0	Aneroid pressure
eed		hPa : 1000
erance		Del. quantity
3/1000 strokes	: 8.0	+ cm3/1000 strokes : 193.0
eck tolerance		+ Tolerance
3/1000s.	: 12.0	+ cm3/1000 strokes : + 1.0
. — = = •	· - · -	+ Check tolerance
		+ cm3/1000s. : +- 4.0
SETTING OF IN	JECTION PUMP	Spreed
H GOVERNOR		+ Tolerance
		+ cm3/1000 strokes : 5.0
		† Check tolerance
DE SLEEVE TRAV	/EL	+ cm3/1000s. : 9.0
	A A = =	†
ed speed rpm	: 1129	†
e sleeve		+
el mm	: 6.37	+ CONTROL LEVER
rance mm	: +- 0.15	†
		+ control lever
ed speed rpm	: 275	position degree : 274.0
de sleeve		+ tolerance degree : +- 4.0
vel mm	: 1.52	†
erance mm	: ← 0.20	+ RATED SPEED
		+ rack travel mm : -1.00
d speed rpm	: 1050	Rated speed rpm : 1120 _
		† Tolerance 1/min : +- 5
		•

-8.50 rack travel mm Rated speed rpm 1235 Tolerance 1/min : **←** 15

rack travel man : -12.00 : + 0.50Tolerance mm 1350 Rated speed rpm

LOW IDLE

control lever

252.0 position degree : tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm 175

: > -5.00 CRT mm min.

Testing:

275 Rated speed rpm **-6.80** rack travel mm Tolerance mm : + 0.10

: -10.50 rack travel mm Rated speed rpm : Tolerance 1/min

TORQUE CONTROL

600 Rated speed rpm

1050 Rated speed rpm : + 0.10Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm : Pressure hPa 1000

500 Rated speed rpm Pressure hPa -2.00rack travel mm : +- 0.20 Tolerance mm

MEASUREMENT

Rated speed rpm : 500

NO4

Pressure hPa 320 rack travel mm -0.85Tolerance mm : +- 0.15

Pressure hPa 160 -1.70 rack travel mm : +- 0.05 Tolerance mm

Start interlock

Rated speed rpm 100 ; > : < 195 Rated speed rpm

Check

speed 1/min :> 80 Check

; < 215 speed 1/min

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 hPa Rated speed rpm 1050

Del. quantity

cm3/100G strokes : 196.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +-6.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 147.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity cm3/1000 strokes :

150.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed	Lbu	:	273
Rack travel	in mm	:	-6 .8

Tolerance mm

Del. quantity cm3/1000 strokes : 31.0

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s.

5.0 Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.02.98 Edition Test oil : ISO 4113

Combination No. : 0 402 746 639

Injection pump

Pump designation : PES6P120A320RS7359

: -3

: 0 412 726 975 EP type number

Governor

Governer design. : RQ275/1050PA1217-2

: 0 421 801 832 Governer no.

Cust. part No. : CCEP 5172 66-255

Customer-spec. information

Customer : RENAULT V.I. : MIDRO62045 J41 otor

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 270
Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter: 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

4.80 Prestroke mm Tolerance mm : **←** 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 20.25 : **←** 0.75 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

*NW after s.o.d. : -0.45

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 13.40

Tolerance mm	: ← 0.05	Rated speed rpm : 1050
BASIC SETTING		
Rated speed rpm	: 600	Rated speed rpm : 400
Tolerance mm	: + 0.05	guide sleeve travel mm : 4.82
Del. quantity cm3/1000 strokes	: 285.0	Tolerance mm : + 0.10
Tolerance cm3/1000 strokes	: + 1.0	+ Rated speed rpm : 480 + guide sleeve + travel mm : 6.00
Check tolerance cm3/1000s.	: + 4.0	Tolerance mm : + 0.10 Rated speed rpm : 1330
Spreed		+ guide sleeve + travel mm : 11.50 + Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes	: 5.0	
Check tolerance		GUIDE SLEEVE POSITION
cm3/1000s.	: 9.0	+ control lever - position degree : 109
Rated speed rpm	: 275	Rated speed rpm : 600 Rack travel in mm : 20.00
Rack travel in man Tolerance man		Tolerance mm : + 0.80
Del. quantity cm3/1000 strokes Tolerance	: 27.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance	: ← 2.0	Rated speed rpm : 600 Aneroid pressure
cm3/1000s. Spreed	: +- 5.0	+ hPa : 1000 + Del. quantity
Tolerance cm3/1000 strokes	: 8.0	+ cm3/1000 strokes : 285.0 + Tolerance + cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s.	: 12.0	- Check tolerance - cm3/1000s. : + 4.0
(B) SETTING OF IN	JECTION PUMP	+ Spreed + Tolerance + cm3/1000 strokes : 5.0
WITH GOVERNOR		Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV		‡
Rated speed rpm guide sleeve		CONTROL LEVER
travel mma Tolerance mm	: 6.36 : + 0.15	control lever position degree : 278.0
Rated speed rpm guide sleeve	: 275	+ position degree : 278.0 + tolerance degree : +- 4.0
travel mm Tolerance mm	: 1.52 : + 0.20	RATED SPEED -1.00

Rated speed rpm Tolerance 1/min	: 1115 : + 15
rack travel mm Rated speed rpm Tolerance 1/min	: 1240
rack travel mm Tolerance mm Rated speed rpm	: −12.90 : ← 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 256.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > -5.30
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : −7.50 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: -11.40 : 375 : + 20
TORQUE CONTROL Rated speed rpm Tolerance mm	: 600 : + 0.05
Rated speed rpm	: 1050

ANEROID/ALTI	TUDE
COMPENSATOR	TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: : : +	500 -2.85 0.20

MEASUREMENT

Rated speed rpm	:	500
Pressure hPa	:	520
rack travel mm	:	-0.60
Tolerance mm	: +	- 0.15
Pressure hPa	:	240
rack travel mm	:	-2.20
Tolerance mm	: +	- 0.05

Start interlock

Rated speed rpm Rated speed rpm	: > : <	100 195	
Check speed 1/min Check	: >	80	
speed 1/min	; <	215	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	•	1000
Rated speed rpm	:	1050
Del. quantity cm3/1000 strokes	:	293.0
Tolerance cm3/1000 strokes	: 4	⊢ 3.0
Check tolerance cm3/1000s.	: +	- 6.0

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		150.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm3/1000 strokes	:	145.0
Tolerance cm3/1000 strokes	: +-	- 15.0
Check tolerance cm3/1000s.	: +-	- 19.0

LOW IDLE

Rated	speed	rpm	:	275
-------	-------	-----	---	-----

			-	
. •			-7.50 0.10	
Del. quantity cm3/1000 strokes Tolerance	:		27.0	
cm3/1000 strokes Check tolerance	:	+	2.0	
cm3/1000s. Spreed	:	+-	5.0	
Tolerance cm3/1000 strokes	:		8.0	
Check tolerance cm3/1000s.	:		12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.02.98 : ISO 4113

Combination No. : 0 402 746 655

Injection pump

Pump designation : PES6P120A320RS7343 .

EP type number : 0 412 726 915

Governor

Governer design. : RQV300...1000PA1160

: -1K

Governer no. : 0 421 815 559

Cust. part No. : 5168 66-250

Customer-spec. information

Customer : RENAULT V.I.

: MIDR 062356 B41 Motor

: 288.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 11.60

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

: +- 0.75 tolerance *NW

Start of delivery mark

*NW after s.o.d. : -0.40

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00 mm

and maximum rack

11.00 travel Difference * CS : 2.25

CRT ZERO POSITION

	† Tolerance man : +- 0.20
Rack travel in mm: 13.00 - Tolerance mm: : +- 0.05 -	Rated speed rpm : 827 guide sleeve
•	+ travel mm : 5.96 + Tolerance mm : + 0.25
BASIC SETTING -	Tolerance mm : + 0.25
·	Rated speed rpm : 550
Rated speed rpm : 1000	guide sleeve travel mm : 3.66
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 356.0	
Tolerance	+ Rated speed rpm : 1440 - guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 15.50
	Tolerance mm : + 0.50
Check tolerance cm3/1000s. : + 4.0	<u> </u>
CIR3/ (OUUS. : +- 4.0 -	GUIDE SLEEVE POSITION
Spreed -	+
Tolerance -	+ control lever
cm3/1000 strokes : 5.0	position degree : -1
-	Rated speed rpm : 1275
Check tolerance	Pools desiral for the second of the second o
cm3/1000s. : 9.0 -	+ Rack travel in mm : 12.00 + Tolerance mm : +- 1.30
	10001 41100 11111
700	CHILL LOAD DELTUEDY AT ELLE LOAD CTOD
Rated speed rpm : 300 -	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: -7.90	Rated speed rpm : 1000
Tolerance mm : + 0.10	Aneroid pressure
Del. quantity cm3/1000 strokes : 36.0	hPa : 1200 Del. quantity
Tolerance	cm3/1000 strokes : 356.0
cm3/1000 strokes : + 1.5	Tolerance
Check tolerance cm3/1000s. : +- 5.0	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	cm3/1000s. : + 4.0
Tolerance -	Spreed
cm3/1000 strokes : 8.0	Tolerance : 5.0
Check tolerance cm3/1000s. : 12.0	Check tolerance
	cm3/1900s. : 9.0
(P) OFTENIO OF THEFTTON DIME	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
WITH GOACHHOL	CONTROL LEVER
OUTSE OF TO AUT	
GUIDE SLEEVE TRAVEL	control lever position degree : 296.0
Rated speed rpm : 1113	tolerance degree : +- 4.0
guide sleeve	24752 2555
travel mm : 8.82 - Tolerance mm : + 0.15 -	- RATED SPEED - rack travel mm : -1.00
Tolerance mm : +- 0.15	Rated speed rpm : 1100
Rated speed rpm : 300	Tolerance 1/min : + 5
guide sleeve	
travel mm : 1.29	rack travel mm : -9.00

Rated speed rpm : 1225 Tolerance 1/min : + 15 rack travel mm : -12.50Tolerance mm : +-0.50Rated speed rpm : 1350LOW IDLE control lever position degree : 252.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm main. : > -6.90Testing: Rated speed rpm : 300 rack travel mm : -7.90 Tolerance mm : **←** 0.10 Rated speed rpm : 390 TORQUE CONTROL Rated speed rpm : 1000 Rated speed rpm : 600 rack travel mm : -0.65 : + 0.15 Tolerance mm Rated speed rpm : 800 0.10 rack travel mm : : **←** 0.15 Tolerance mm Rated speed rpm : 350 rack travel mm : -1.75 : +- 0.30 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1000 : 1200 Pressure hPa Rated speed rpm : 500

MEASUREMENT Rated speed rpm : 1000 Pressure hPa : 320 rack travel mm : -2.90 : +- 0.15 Tolerance mm : 520 Pressure hPa rack travel mm : -1.80
Tolerance mm : + 0.05 Start interlock Rated speed rpm :> Rated speed rpm : > 100 225 Check speed 1/min : > 80 Check speed 1/min : < 245 FUEL DELIVERY CHARACTERISTICS Aneroid pressure : 1200 hPa Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 381.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +- 6.0 rack travel mm : 0.10 Tolerance mm : \leftarrow 0.15 Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 245.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.25

Tolerance mm : \leftarrow 0.30

Pressure hPa

rack travel mm : -4.00

Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 185.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300 -7.90 Rack travel in mm : : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 36.0 Tolerance cm3/1000 strokes : + 1.5Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.02.98 Test oil : ISO 4113

Combination No. : 0 402 846 076

Injection pump

Pump designation : PE6P12OA32ORS8043 EP type number : 0 412 826 035

Governor

Governer design. : RQV300...1100PA1248

Governer no. : 0 421 814 165

Cust. part No. : 11031330

: -P03 v.12.97

Customer-spec. information

Customer : VCE

Motor : TD 103 KBE Power KW : 216.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : ← 0.1

Overflow quantity

min. L/h : 150 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.25
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 11.00 Tolerance mm : ← 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

		† Tolerance mm : + 0.20
BASIC SETTING		Rated speed rpm : 1080
Rated speed rpm	• 700	+ guide sleeve + travel mm : 6.80
nated Speed (pill		
Rack travel in mo	12.40	Rated speed rpm : 520
Tolerance mm		guide sleeve
		travel mm : 4.67
Del. quantity cm3/1000 strokes	: 270.0	Tolerance mm : +- 0.25
Tolerance		Rated speed rpm : 1370 guide sleeve
cm3/1000 strokes	· + 10	travel mm : 11.50
CHOT TOOK SET ONES		+ Tolerance mm : + 0.50
Check tolerance	~	+
cm3/1000s.	: +- 4.0	
		+ GUIDE SLEEVE POSITION
Spreed		†
Tolerance		t control lever
cm3/1000 strokes	. 8.0	position degree : - 1
CIRCY TOOD SET ONCS	. 0.0	Rated speed rpm : 1240
Check tolerance		
cm3/1000s.	: 11.0	+ Rack travel in mm : 11.30
		+ Tolerance mm : + 1.50
		+
Rated speed rpm	: 330	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mon		Rated speed rpm : 700
Tolerance ma		Aneroid pressure
Del. quantity		+ hPa : 1500
cm3/1000 strokes	: 29.0	+ Del. quantity
Tolerance		+ cm3/1000 strokes : 270.0
cm3/1000 strokes	: ← 2.5	† Tolerance
Check tolerance		+ cm3/1000 strokes : +- 1.0
	: ← 5.0	Check tolerance
Spreed		+ cm3/1000s. : +- 4.0 + Spreed
Tolerance cm3/1000 strokes	. 50	Tolerance
Check tolerance		cm3/1000 strokes : 8.0
	: 8.0	+ Check tolerance
		+ cm3/1000s. : 11.0
		+
(B) SETTING OF IN	JECTION PUMP	†
WITH GOVERNOR		CONTROL LEVED
		CONTROL LEVER
GUIDE SLEEVE TRAV	 FI	control lever
GOINE SPEEKE LKWA	LL	position degree : 60.0
Rated speed rpm	: 1140	tolerance degree : +- 4.0
guide sleeve		<u> </u>
travel mm	: 7.71	- control lever
Tolerance mm	: ← 0.15	position degree : 115.0
		tolerance degree : +- 4.0
Rated speed rpm	: 330	T DATES OFFI
guide sleeve	. 240	RATED SPEED
travel mm	: 2.10	+ rack travel mm : 11.40

Rated speed rpm : 1130 Tolerance 1/min rack travel ma 4.00 Rated speed rpm : Tolerance 1/min rack travel mm 0.50 : + 0.50 Tolerance mm Rated speed rpm : 1275 LOW IDLE control lever 65.0 position degree : tolerance degree : + 4.0

control lever
position degree : 14.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 230

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 330 rack travel mm : 4.00 Tolerance mm : \div 0.10

Rated speed rpm : 400

TORQUE CONTROL
Rated speed rpm : 700
rack travel mm : 12.40
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.40
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.70

Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 550 rack travel mm : 2.20 Tolerance mm : + 0.20

Pressure hPa : 230 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 700
Del. quantity

cm3/1000 strokes : 202.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 330

Rack travel in mm : 4.00 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 strokes : +- 2.5 Check tolerance

cm3/1000s. : +- 5.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 8.0

End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/ ...

Edition : 08.05.96 Test oil : ISO 4113

Combination No. : 0 403 446 302

Injection pump

Pump designation : PES6MW100/720RS1131.

EP type number : 0 413 406 123

Governor

Governer design. : RQV300...1300MW50

: -24

: 0 420 083 270 Governer no.

Cust. part No. : 0220745202

Customer-spec. information Customer : MB-NFZ : OM 366 A Motor

Power KW : 121.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 683 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 715 989

Outside diameter: 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar $: \leftarrow 1.0$

3.75 Prestroke mm : + 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 10.95

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 89.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

cmo/ IUUU strokes	3.5	control lever position degree : 113
heck tolerance m3/1000s.	: 6.0	Rated speed rpm : 1370
		Rack travel in mm : 10.00 Tolerance mm : + 2.70
ated speed rpm	: 300	
lask Austral da m	- 4 /0	+ FULL LOAD DELIVERY AT FULL LOAD STO
Rack travel in m Folerance mm		Rated speed rpm : 1300
Del. quantity	0.10	+ Aneroid pressure
cm3/1000 strokes	: 12.0	+ hPa : 700
olerance		+ Del. quantity
m3/1000 strokes		+ cm3/1000 strokes : 89.0
Check tolerance		+ Tolerance + cm3/1000 strokes : +- 1.0
cm3/1 00 0s. Spreed	: +- 4.5	+ Check tolerance
Folerance		- cm3/1000s. : + 3.0
cm3/1000 strokes	: 3.5	+ Spreed
Check tolerance		† Tolerance
cm3/1000s.	: 5.5	+ cm3/1000 strokes : 3.5
		+ Check tolerance + cm3/1000s. : 6.0
GUIDE SLEEVE TRAV		- + CONTROL LEVER
POTOE SPEENE IKW	VCL	†
		control lever
Rated speed rpm		control lever position degree : 112.0 tolerance degree : + 4.0
Rated speed rpm guide sleeve cravel mm	: 1354 : 8.64	position degree : 112.0 tolerance degree : + 4.0
Rated speed rpm guide sleeve cravel mm	: 1354 : 8.64	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1354 : 8.64 : ← 0.15	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1354 : 8.64 : ← 0.15	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1354 : 8.64 : ← 0.15 : 300	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95
Rated speed rpm puide sleeve ravel mm folerance mm Rated speed rpm puide sleeve ravel mm	: 1354 : 8.64 : ← 0.15	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1354 : 8.64 : + 0.15 : 300 : 1.37 : + 0.20	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440
Rated speed rpm puide sleeve ravel mm folerance mm Rated speed rpm puide sleeve ravel mm folerance mm	: 1354 : 8.64 : + 0.15 : 300 : 1.37 : + 0.20	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm puide sleeve ravel mm folerance mm Rated speed rpm puide sleeve ravel mm folerance mm Rated speed rpm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15
tated speed rpm puide sleeve ravel mm folerance mm tated speed rpm puide sleeve ravel mm tolerance mm tated speed rpm puide sleeve travel mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm puide sleeve ravel mm folerance mm Rated speed rpm puide sleeve ravel mm folerance mm Rated speed rpm puide sleeve ravel mm rolerance mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm puide sleeve ravel mm colerance mm rated speed rpm puide sleeve ravel mm colerance mm rated speed rpm puide sleeve ravel mm colerance mm rated speed rpm puide sleeve ravel mm colerance mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm puide sleeve ravel mm colerance mm rated speed rpm rolerance mm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm rated speed rpm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
rated speed rpm uide sleeve ravel mm olerance mm uide sleeve ravel mm olerance mm ated speed rpm uide sleeve ravel mm olerance mm ated speed rpm uide sleeve ravel mm olerance mm	: 1354 : 8.64 : + 0.15 : 300 : 1.37 : + 0.20 : 885 : 5.01 : + 0.25 : 490	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500
tated speed rpm puide sleeve ravel mm olerance mm tated speed rpm puide sleeve ravel mm olerance mm tated speed rpm puide sleeve ravel mm olerance mm tated speed rpm puide sleeve ravel mm olerance mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25 : 490 : 2.86 : ← 0.25	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Tolerance mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25 : 490 : 2.86 : ← 0.25	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25 : 490 : 2.86 : ← 0.25 : 1610	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25 : 490 : 2.86 : ← 0.25 : 1610 : 11.50	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500 LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1354 : 8.64 : ← 0.15 : 300 : 1.37 : ← 0.20 : 885 : 5.01 : ← 0.25 : 490 : 2.86 : ← 0.25 : 1610	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500 LOW IDLE
rated speed rpm puide sleeve ravel mm olerance mm rated speed rpm	: 1354 : 8.64 : + 0.15 : 300 : 1.37 : + 0.20 : 885 : 5.01 : + 0.25 : 490 : 2.86 : + 0.25 : 1610 : 11.50 : + 0.50	position degree : 112.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.95 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500 LOW IDLE control lever position degree : 79.0

CRT mm min.	: > 8.00	Check speed 1/min : < 240
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 6.40	Aneroid pressure hPa : 700
TORQUE CONTROL	4700	Rated speed rpm : 750 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 10.95	+ cm3/1000 strokes : 85.5 + Tolerance + cm3/1000 strokes : +- 1.5
Rated speed rpm	: 750	+ Check tolerance - cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: + 0.05	+ Spreed + Tolerance + cm3/1000 strokes : 5.0
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.20 : + 0.10	Check tolerance cm3/1000s. : 7.0
ANEROID/ALTITUDE		
COMPENSATOR TEST		
SETTING		Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm Pressure hPa rack travel mm	: 700	Del. quantity cm3/1000 strokes : 48.0 Tolerance
Tolerance mm	: ← 0.05	cm3/1000 strokes : + 1.0 Check tolerance
Rated speed rpm Pressure hPa Tolerance mm	: 500 : − : ← 0.10	+ cm3/1000s. : +- 3.0
MEASUREMENT		STARTING FUEL DELIVERY
Rated speed rpm	: 500	Rated speed rpm : 100 Del. quantity
Pressure hPa rack travel mm	: 1.35	cm3/1000 strokes : 105.0 Tolerance
Tolerance mm Pressure hPa		+ cm3/1000 strokes : +- 5.0 + Check tolerance + cm3/1000S. : +- 8.0
rack travel mm Tolerance mm	: 0.55	
Start interlock		LOW IDLE
Rated speed rpm Rated speed rpm		Rated speed rpm : 300
Check speed 1/min		Rack travel in mm: 6.40 Tolerance mm: +- 0.10 Del. quantity
Special Control		- cm3/1000 strokes : 12.0

Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.97 Test oil : ISO 4113

Combination No. : 9 400 087 498

Injection pump

Pump designation : PES6P120A120RS3344 .

EP type number : 9 400 087 090

Governor

Governer design. : RQV350...1100PA1216

Governer no. : 9 420 080 380

Cust. part No. : 3355978

Customer-spec. information Customer : CUMMINS

Motor : 6 CTAA - 250

Power KW : 184.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 3.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 15.50 Tolerance mm : +- 1.50

ioterance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.10

Check

tolerance *NW : + 0.23

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 14.55

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 184.5	Tolerance mm : + 0.25	
		+ Rated speed rpm : 1400	
Tolerance		+ guide sleeve	
cm3/1000 strokes	: + 1.0	+ travel mm : 10.55	
		+ Tolerance mm : +- 0.25	
Check tolerance		+	
cm3/1000s.	: +- 4.0		
		+ GUIDE SLEEVE POSITION	
Spreed		+	
		+	
Tolerance		+ control lever	
cm3/1000 strokes	: 5.0	<pre>position degree : - 1</pre>	
		+ Rated speed rpm : 1150	
Check tolerance		+	
cm3/1000s.	: 9.0	+ Rack travel in mm : 16.50	
		+ Tolerance mm : + 1.30	
		+	
		+	
Rated speed rpm	: 325	+ FULL LOAD DELIVERY AT FULL LOAD STOP	
		†	
Rack travel in m		+ Rated speed rpm : 1100	
Tolerance mm	: +- 0.10	+ Aneroid pressure	
Del. quantity		+ hPa : 1000	
cm3/1000 strokes	: 44.0	+ Del. quantity	
Tolerance	7.4	+ cm3/1000 strokes : 184.5	
cm3/1000 strokes	: - 3.0	Tolerance	
Check tolerance		+ cm3/1000 strokes : +- 1.0	
cm3/1000s.	: +- 6.0	+ Check tolerance	
Spreed		+ cm3/1000s. : + 4.0	
Tolerance	0.0	+ Spreed	
cm3/1000 strokes	: 8.0	+ Tolerance	
Check tolerance	42.0	+ cm3/1000 strokes : 5.0	
cm3/1000s.	: 12.0	+ Check tolerance	
		+ cm3/1000s. : 9.0	
(D) 05577110 05 Th	LIFOTTON DUMP	†	
(B) SETTING OF IN	NJECTION FUMP	Ť	
WITH GOVERNOR		T CONTROL LEVER	
·		I CONTROL ELVER	
GUIDE SLEEVE TRAV	/FI	- control lever	
GOIDE OFFERE HAVE		position degree : 63.0	
Rated speed rpm	: 650	+ tolerance degree : +- 4.0	
guide sleeve		+	
travel mm	: 5.55	control lever	
Tolerance mm	: ← 0.25	position degree : 117.0	
		tolerance degree : + 4.0	
Rated speed rpm	: 1150	+	
guide sleeve		+ RATED SPEED	
travel mm	: 8.40	+ rack travel mm : 13.50	
Tolerance mm	: +- 0.10	+ Rated speed rpm : 1155	
		+ Tolerance 1/min : +- 5	
Rated speed rpm	: 350	+	
guide sleeve	. ==	+ rack travel mm : 4.00	
travel mm	: 1.55	+ Rated speed rpm : 1350	
Tolerance mm	: +- 0.25	Tolerance 1/min : +- 15	
D. 4. 4 - 4 - 4	. 500	† nock +novel 0.50	
Rated speed rpm	: 500	+ rack travel mm : 0.50 + Tolerance mm : + 0.50	
guide sleeve		(
travel mm	: 4.05	+ Rated speed rpm : 1500	

LOW IDLE

control lever

position degree : 69.0 tolerance degree : + 4.0

control lever

position degree : 14.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. :> 9.50

Testing:

Rated speed rpm : 325 rack travel mm : 6.40 Tolerance mm : + 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 14.55 Tolerance mm : +- 0.05

Rated speed rpm : 700 rack travel mm : 14.55 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 14.55
Tolerance mm : + 0.05

Rated speed rpm : 500 Pressure hPa : -

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 680 rack travel mm : 0.85

Tolerance mm : +- 0.15

Pressure hPa : 530 rack travel mm : 0.30 Tolerance mm : + 0.10

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 255

Check

speed 1/mir : > 80

Check

speed 1/min : < 275

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 184.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 5.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Rated speed rpm : 50 Del. quantity

cm3/1000 strokes : 144.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : \leftarrow 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 190.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm	:		325
Rack travel in mm Tolerance mm Del. quantity	:	+-	6.40 0.10
cm3/1000 strokes Tolerance	:		44.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s. Spreed	:	+-	6.0
Tolerance cm3/1000 strokes	:		8.0
Check tolerance cm3/1000s.	:		12.0